Shaping the Future. Together.

A strategy to guide and inspire technological innovation within Achmea

Thesis report - December 2017
Leroy Huikeshoven

achmea

TU Delft

Shaping the Future. Together.

A strategy to guide and inspire technological innovation within Achmea

Master thesis
Delft, December 2017

Author
Leroy Huikeshoven
MSc. Strategic Product Design
l.huikeshoven@outlook.com

Supervisory team

Chair
Prof. D.N. Nas (Deborah)
Professor of Strategic design for technology-based innovation
d.n.nas@tudelft.nl / deborah@sunidee.com

Mentor
Dr. T.J. Jaskiewicz (Tomasz)
Assistant Professor
t.j.jaskiewicz@tudelft.nl

Company mentor
Thijs Fleer
Innovation manager, Innovation and Expierence Centre IT, Achmea

Company
Achmea
Postbus 866
3700 AW, Zeist
www.achmea.nl

Delft University of Technology
Faculty of Industrial Design Engineering
Landbergstraat 15
2628 CE, Delft
www.ide.tudelft.nl

Preface

This report is the final deliverable of my graduation project. The project isin collaboration with Achmea, a leading insurance company in the Netherlands. My thesis explores and answers questions about innovation, digitalisation and management of IT. It has been an 7 month journey with deep collaboration of so many wonderful and supporting people at Achmea and the faculty.

I want to thank Thijs Fleer, Guus van der Weijden en Frank Josten for their support in pushing this project forward and coaching. They have created the environment that made the project to a success.

Thank you Deborah and Tomasz for always being available, challenging my assumption and the support during the meeting with Achmea. I'm honour to be your graduate student.

Many credits and thanks for my colleagues at the innovation and experience centre IT and the department of Strategy and Governance. You have been a great supporting team and fun to work with.

Thank you friends and family for supporting me during the project. Anne, Steven, Arne and Ruben thank you for the many coffee breaks. And special thanks to all my friends how have been loaded with incomprehensible texts and stories they had to check and correct; Sander, Joep, Hidde, Ruben and Bas.

And finally, thank you Sophie for doing all above and more.

Good luck with reading ;)

Leroy Huikeshoven

Executive summary

Shaping the Future. Together.

A strategy to guide and inspire technological innovation within Achmea

Digitalization is a phenomenon describing the increasing use of information and communication technologies in our society as at large and in our daily lives. They reshape the world around us, how we organise our lives, how we interact with friends and family, and how we work and collaborated. Digital technology makes us more connected and more insightful.

Because of digitalization companies like Achmea experience increasingly dynamic markets. Many markets already have experienced significant change, such as the logistics and entertainment industry. The financial and insurance markets are experiencing that change right now. Start-ups working on 'Insurtech' and 'Fintech' are hot and booming.

The Assignment

The assignment for this project has been to develop methods for Achmea IT in order to stimulate technological innovation across Achmea. The solution is a strategy called 'Shaping The Future. Together' and is meant to align existing innovation processes by creating shared vision about the future among employees.

This strategy is an answer to the several problems found during research; (1) the lack of understanding new technologies and its potential by the employees at the divisions and the brands, (2) the struggle to imagine and develop an IT infrastructure that is ready to support new innovations based on new technologies, (3) the lack of governance on innovation processes across Achmea and (4) the lack of a proper process at the research side of innovation.

The strategy is designed for Achmea to innovate with digital technologies. It empowers employees to come together across Achmea and collect insights about the future to imagine visions - new interactions between people and products. These visions guide, inspire and steer innovation at Achmea.

'Shaping The Future. Together' means connecting different innovation processes within Achmea together. Different processes work together in an iterative (Agile) and open (open innovation) manner to generate knowledge about the future. This is done by doing tests in innovation funnels, generate concepts during hackathons and imagining desirable futures for people and Achmea.

Innovation funnels, Customer Arenas, Hackathons, Innovation challenges, Trend reports and whitepapers are structured in a comprehensive way to organise a strong overall innovation process within Achmea and its ecosystem. This innovation process generates knowledge on new value propositions, new business models, new products and services, new business processes, new ways of collaborating and the future state of the IT infrastructure, see figure A.

Workshop

Except for the creation of visions, most processes are already present within Achmea. Therefore, a custom workshop has been designed for the innovation managers across Achmea. This workshop generates visions with employees on a specific topic. During the workshop these visions are mapped on a timeline to create a path towards the future.

The visions are based on insights, data, knowledge and personal values the participants have to collect upfront. These insight can be collect from anywhere; whitepaper, family and friends, experiences, customer research and business analytics. This approache is grounded in literature and argues that futures are created by the action people take based on the knowledge they can muster and the value they have.

The workshop has been tested with employees of Achmea and is used by innovation managers at the Innovation and Experience centre IT. The pilot was a success. The energy was high and the participants were impressed about the deep discussion the workshop facilitated. In only four hours they managed to make multiple visions for the future.

The strategy, innovation process and workshop is based on a combination of different approaches; Innovation of Meaning (Verganti, 2017), Vision in Product Design (Hekkert & Dijk, 2011), Contextmapping (Sanders & Stappers, 2012), Backcasting (Vergragt & Quist, 2011) and the Three Horizons Method (Curry & Hodgson, 2008).

Design process

This project has been done through deep collaboration with employees across Achmea. The process has been energizing and insightful for both myself and employees of Achmea. The final result is grounded in an extensive explorative research of four months and support by literature.

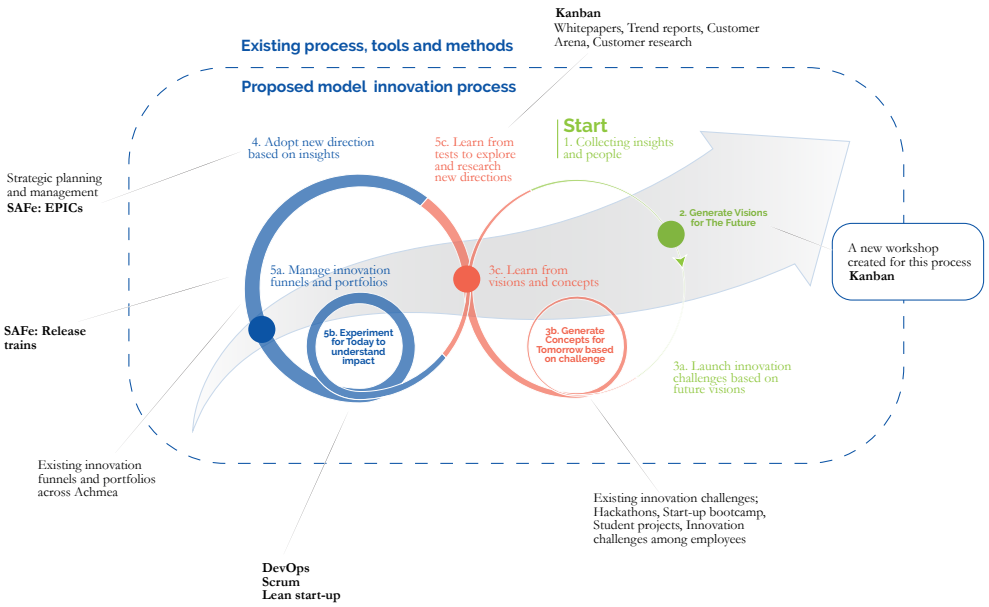


Figure A: This visual gives an abstract overview of the new innovation process across Achmea. Inside the box the new process is explained with steps. Outside the box are some examples of process, methods and tools already present within Achmea that can be used for this process. The bold text states the Agile methodology that can be used to execute the process or task.

Index

Chapter A

Glossary

A-B testing: Development of websites and app by presenting two different versions of the customers, and choosing the best performing.

Achmea IT: The department responsible for all generic information and communication processes and technologies

Agile: A mindset based on an iterative manner of software development by quickly launching a product and gain feedback from the user.

Backcasting: An approach to strategic planning by working backwards from a future vision and setting milestones in given time-frame to reach that future.

Blockchain: Digital technology - An open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way through units called blocks linked and secured by cryptography.

Business: In this report business refers to all the Divisions and Brands of Achmea together

Brand: A brand of Achmea that has interaction with the customer, responsible for distribution of the products.

Core Innovation Team: Assembly of all major innovation team and employees at Achmea

Customer experience: the experience a customer has during the interaction with the company through products, marketing, customer services and all other touch points

Customer journeys: Visual representation of the journey a customer takes during the interaction with products, customer service, websites etc.

Design research: Research that uncover unarticulated needs and wants of people and tries to find insights of the future context of people, products and services. This research is often conducted in the early phase of a design project

Division: Department within Achmea responsible for specific business processes, facilitating multiple brands in one insurance segment

Generative/explorative research: An approach to research in discover and understanding a problem. This approach often involves participants themselves and is often qualitative in nature.

Horizon: An abstract barrier in the future the symbolizes a transition of the state of innovation: test, concepts and visions.

Innovation managers: generalized role with Achmea for the management of innovation projects and innovation funnels

Kanban: A Lean-Agile approach to managing workload by specifying how much resources there are available and how much resources are needed for each tasks. This in made visual on a Kanban-board.

Lean Start-up: A method to start a company by iterative improving the value proposition

Market Strategy: Department of the holding overseeing the overall strategy of Achmea

New business developers: Innovation managers working for brands with focus on business development and innovation.

PIF: Project Initiation Form, a document used by many organisation to summarize and authorized new projects requesting resources

Scrum: The most popular Agile approach to management of software development

Chapter 1

Project introduction

Introduction to this project and Achmea

Achmea and technological innovation

Innovation actors

Report structure

Chapter 1

Project introduction

1.1. Introduction to this project and Achmea

Achmea is a leading insurance company based in the Netherlands. They provide Health, Life and Non-life insurance to mostly Dutch based customers. Achmea is the market leader in the Netherlands, serving about half of all Dutch households (Van Duin, 2016). Achmea was founded in 1811 by farmers in the small town of Achlum, who shared the financial risks of roof fires. The 'Mutual insurance Achlum' started with 39 customers and grew in 200 years to be the biggest insurance company in the Netherlands. The core value of Achmea is 'Solidarity': cooperation based on mutual interest *("Solvabiliteit,"* 2017).

> "The story of Achmea is the story of our employees. Together we will build the Achmea of the future in the coming years. Our social role to help people deal with risks does not change, but the way we do it will. We will become a leading service provider that is relevant to customers on a daily basis, by providing insight and providing appropriate solutions to better deal with uncertainties. In addition, we will continue to do what we have been doing for over 200 years. If damage occurs, we will reimburse them and help customers recover" (*"Over Achmea,"* 2017).

Providing an insurance is simple in principle. A policyholder pays the insurer a fee upfront or afterwards and in return the insurer pays the costs in case of damage or loss. The insurer acts as broker of thrust and money. They invest the money they receive from policyholders to increase capital for more profit and in case they have to pay more than they have received. The core activity of the insurer is to spread risk and calculate probability of incidents.

The insurance market is shifting to a more service-oriented approach mainly due to (social) platform technology and internet in general. This phenomenon is known as digitalisation. Many other market already have experience great change, such as the logistics, travel and entertainment markets. For example, Uber has disrupted the taxi industry. And Airbnb and Booking.com transformed the travel industry. Both examples leverage internet technology in combination with mobile devices to offer customers better services than their competitors.

When different technological developments convergence they disrupted the way people organize their lives and how they interact with each other, they disrupt industries (Wadhwa, 2017). The interact between insurer and policyholder is not excluded. Digitalisation will drastically change the way they do business. Many businesses are currently struggling to reorganize themselves, so they can deliver their customers value in the future.

Achmea's market is increasingly more dynamic. But the financial and insurance market may soon be changing even more. Start-ups working on 'Insurtech' and 'Fintech' are hot and booming. They make use of newer hot technological developments; blockchain, machine learning and internet of things. This second wave of digital technologies may hit the insurance market harder then the first wave.

Digitalization and servitization of the insurance market is pressuring Achmea to invest in technology-driven innovation. The applications of these technologies and the shifting market are a threat to Achmea's current business models, but also an opportunity for the development of new business models and products. Therefore, Achmea wants to innovate their processes, products and businesses, to improve their competitive advantage in this new market environment (*Annual Report 2016*, 2016).

1.2. Achmea and technological innovation

Achmea consists of a holding, a bank, several divisions each supporting multiple brands and a separate IT department for the whole organisation. The brands are roughly divided in three market segments: Health insurance, risk insurance and pensions. The company serves both consumers and businesses. The IT department is tasked with developing and facilitating IT services for the Achmea brands and supply chains.

Achmea has the ambition to be the most innovative insurance company in the Netherlands. They see the IT department and new technological developments as key enablers for innovation throughout the company. Achmea IT has a crucial role in their innovation process (*Strategische innovatiefunnel zakelijk*, 2017).
The IT department provides the IT services for all the brands. Achmea IT wants to facilitate the processes of the business (the brands and the divisions), but innovation, is currently being practised in a broad variety of ways . A general periodic meeting is held between all teams across Achmea to discuss and share knowledge about innovation and innovation projects. Different views between employees on innovation are present at the brands, divisions and IT.

Achmea is also implementing an Agile way of working across the company. Achmea IT is currently in the process of figuring out how to deal with Agile. Is it the best working format for innovation and Management of IT infrastructure? A team of five employees (I&EC) is currently working on the management of innovation for Achmea IT in reaction to digitalization and is faced with these issues.

The Innovation and Experience centre IT (I&EC) has a technological perspective on innovation. Innovation projects done at Achmea IT therefore have a heavy technological orientation. Both Achmea in general as Achmea IT themselves want to leverage this unique viewpoint on innovation.

They want to improve the collaboration with the business, but are reserved about the integrity and security of their IT infrastructure. Achmea has just cleaned up a very large and messy IT infrastructure. Achmea IT has been primarily focused on reducing the costs of its IT landscape as a result . The focus on costs reduction and the old-legacy IT infrastructure currently affects the implementation of new technologies in a negative way.

With innovation come changes and failures as well. These oppose risks for the need of Achmea to be operational 24/7. Protecting integrity and security is a major boundary condition for Achmea IT. The questions arises how Achmea IT can

leverage their knowledge on IT within Achmea without compromising Achmea IT's integrity and security.

The assignment is aimed to help the people working on innovation. People work in teams with different tools and methods to accomplish their task. Therefore, the assignment for this project is formulated as follows:

> Design tools for Achmea IT to act pro-actively in enabling Achmea brands and Divisions to innovate with new IT opportunities in an agile way, without compromising Achmea IT's integrity and security.

1.3. Meet the innovation actors in Achmea

For this report it is import to understand who is doing what for innovation. Achmea has four main entities that are working on innovation, see figure 1.1. on the next page for more information. At the top we have Market Strategy. They are responsible for innovation in light of the Achmea corporation and make strategy for the organisation. A monthly general assembly is held with all innovation entities to align and govern innovation across Achmea. This assembly is the 'Core team innovation'.

At the brands new business developers are managing innovation activities for their respective brand. Their focus is on improving the customer experience and they innovate mostly based on customer insights. Each brands is supported by a division for operations. These division each have also teams that innovate. Their perspective is to innovate for the market. And lastly, Achmea IT has its own innovation team. They start from technological trends. A full description in form of a persona can be found in appendix A.

Innovation teams at the divisions innovate based on strategic themes, such as 'mobility' and 'smart households', which a relevant for the insurance segment. These themes are defined by Market Strategy. Methods for future envisioning, such as three horizons, are used to explore possibilities. However, ideas are mostly deriving from internal and external sources, and little energy is spent to generating ideas themselves. To develop ideas further a Lean Start-up approach is preferred, if business model are involved. If not, most projects are taken on by an Agile team of employees.

New business developer at the Brands start from the brand promise and consumer insights. Although they use customer journeys is some extent, A-B testing is the dominant source of input. Hackathons and innovation challenges external and internal are organised to generated ideas. Just like the divisions. The new business

Figure 1.1. Innovation organised within Achmea

Core team Innovation

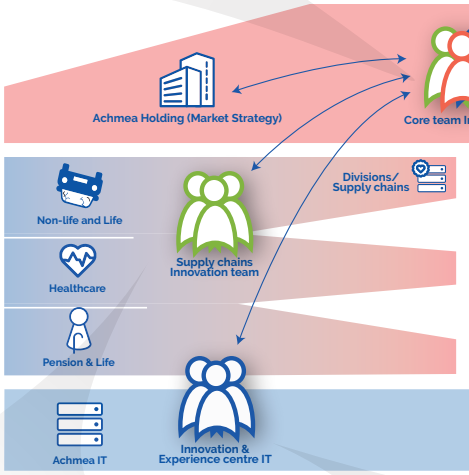
Who: An assembly of all innovation teams lead by the CMO

Aim: Coordination on innovation throughout Achmea based on corporate strategy, representing the interest of the holding

How: Governance is executed with the use of an combined innovation funnel of all innovation teams; simple table in powerpoint listing basic information.

Innovation activities contain coordination and delegation of lean start-up projects and innovation challenge programs

Innovation organised within Achmea



Division (supply chain) Innovation teams

Who: A team of innovation (project) managers working for a specific division

Aim: Innovation is coordinated through innovation themes defined by the corporate strategy in search of new business models and services for Achmea, and innovation of business processes

How: An innovation funnel is used to coordinate innovation activities for the division and to communicate with Achmea

Trend-watching, opportunities scouting is used to initiated projects in an lean start-up style, with a Brand as business owner

New Business developers

Who: Employees who coordinate and initiate innovation projects and activities at Brand-level

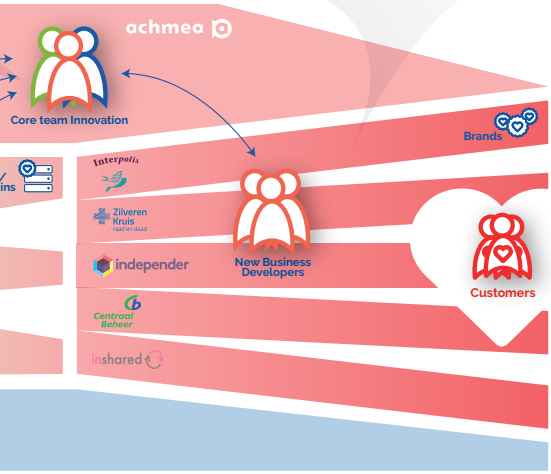
Aim: Management of innovation is done to improve current customer service and develop new service based on consumer needs

How: An innovation funnel is used to coordinate innovation activities for the brand and to communicate with Achmea

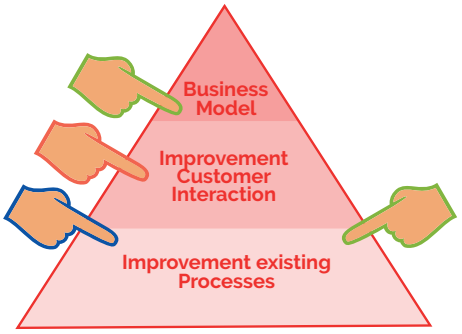
An combination of start-ups method is used: incubator program, start-up boot-camp, and lean start-up projects

An Agile way is working is used to continuously improve by employees and new ideas are collected and explored during Hackathon among employees

Brands



Who is doing what?



Innovation & Experience centre Achmea IT

Who: A team of innovation (project) managers working for Achmea IT

Aim: Innovation is focussed on technological trends to identify developments and to forecast future business requirements and IT architectures.

How: An innovation funnel is used to coordinate innovation activities for Achmea IT and to communicate with Achmea

Trend-watching, opportunities scouting is used to initiated projects for learning in a Agile manner with a Division or Brand as business owner

Achmea IT

developers do little idea generation themselves. The assessment of ideas is done based on the vision of the brand. Further development is done in similar manner as the divisions.

1.4

The Innovation & Experience centre IT at Achmea IT is focussed on technological development, because they are tasked with scouting and exploring technological developments that could benefit business processes including the 'process' of interacting with the customer. Therefore, they develop a technological trend report each year. The trend report is a basis to redefine which member is responsible for a specific technology domain. The report is also the basis for managing the funnel. Projects are sought after and must be aligned with these trends. Innovation project are mostly taken on by a small team of employees of Achmea IT, joined by people from the divisions or brands.

1.4. Report structure

The previous section gave a shortened version of the initial reason for this project. This report is a thesis report, but not a conventional one. Yes, I did have an assignment, but early on in the project it became evident that the assignment is in a complex and messy context. The project has had two fundamental parts; (1) an exploratory study using multiple tools and with deep involvement of the client. This can be found in chapter 2 up to and including chapter 5. And (2) a co-creation approach for writing an new strategy and, complementary, design of supporting tools. The second part starts at chapter 6.

The next three chapter are about the first part and concludes with chapter 5. Each chapter touches upon one key area of focus and are order in a logical way. Each chapter combines a literature review, results from an exploratory research in Achmea and memo's (observations, discussions, thoughts, ideas) and judgement of myself. The separate literature review can be found in appendix B, the research in appendix C and the memos in appendix D. I choose to abandon the conventional research report structure, because it didn't provide the flexibility I needed to give the reader proper understanding of the context and situation.

1.4.1. Chapter 2: Agile and innovation

Achmea has banked a lot on shifting to Agile to be more customer relevant. But Agile contribute less to being more innovative. Agile practises typically start with ideas and then iterate with customers to create a better product or service. However, a proper process to uncover future needs and wants people is typically missing in Agile approaches. Chapter 2 explores why that is and why innovators in Achmea struggle with doing innovation in an Agile manner. This chapter addresses the Agile element of this assignment.

1.4.2. Chapter 3: IT collaboration

Achmea IT has been primarily focused on reducing the costs of its IT landscape for last years. In order to do this they have had a specific role in the organisation. But innovation is different in many way. Risks and loses are part of the game. This, and the need for other departments to help them with technological innovation changes the role Achmea IT must have. Chapter 3 explains why that is and what the current struggles are in collaboration on innovation. It addresses the need for Achmea to leverage IT knowledge more within Achmea.

1.4.3. Chapter 4: Innovation governance

Achmea is pressured to innovate, because of the rapid pace of development in the market. However, a strong structure for innovation is lacking within Achmea. The scattering of innovation activities and the unguided aim of all these activities creating an equivalent of a company-wide brainstorm in for innovations. Chapter 4 touches upon why this has happen and what is needed to fix it. The chapter is not directly related to the assignment, but this topic surfaced during my research and is highly relevant for completing this assignment.

1.4.4. Chapter 5 & 6: Conclusion and design process

Chapter five consolidates and concludes the previous chapters and sets a foundation for the next part of the report. Chapter 6 touches upon the design process and the guidelines for the design process. This chapter highlights how the Strategy has come about.

1.4.5. Chapter 7: Shaping the Future. Together

The designed artefact is a new Strategy for I&EC how to innovate with new digital technologies. The strategy uses the creation of visions to inspire and guide innovation across Achmea. Chapter 7 explains how the strategy works and what the mechanics behind the strategy are. The chapter concludes with an example how the new strategy will change the way I&EC works.

1.4.6. Chapter 8:

Achmea has many different innovation processes in place that can be reused and structured in this new strategy. But, in order for the strategy to succeed, one fundamental process is missing; the creation of visions. Chapter 8 explains a process that I designed for employees at Achmea to generate visions about the context of Achmea and people. The process is explained via a pilot to validate if the process is understandable.

1.4.7. Chapter 9: New roles for Innovation managers

Most innovation activities at Achmea are done by innovation managers at Achmea IT, the divisions and Brands. With the introduction of the new strategy their role will shift towards three specific sub-roles; The Manager, the Strategist and the Disruptor. Chapter 9 touches upon each of these roles, what they do and for which part of the process they are responsible.

1.4.8. Chapter 10: Adjustments to the current strategy and implementation

If the new strategy will be implemented and if the innovation managers will take on new roles, then the organisation has to support these changes. Chapter 10 will address which point in the current Achmea IT strategy must be adjusted to support this new strategy for innovation. The chapter also concludes with an short implementation plan of the innovation strategy.

1.4.9. Chapter 11: Validation and limitations

This project has been very entrenched in the context. Therefore, validation of different elements of the strategy have been done in specific manner. Chapter 11 elaborated on the validity of this projects and its limitations. This Chapter also has to examples of projects within Achmea that could have benefited from this strategy.

1.4.10. Chapter 12: Conclusion, Advice and Recommondations

Chapter 12 concludes this project. It will give a quick summary of all that has been research, designed and written. Second, it will summarizes some key take away points for both Achmea and Achmea IT. And lastly, it will recommend next steps in both the academic field and for Achmea.

1.4.11. Chapter 13: Personal Conclusion and Reflection

The last chapter will conclude with I have seen this project, and what outside the context has been my main take away. It also reflects upon my personal journey during this graduation project.

1.5. Introduction to the research

Many insight has come from an explorative study among innovation actors at the brands and the divisions. The assignment states: 'pro-actively in enabling Achmea brands and Divisions to innovate with new IT opportunities in an agile way'. Thus, it seemed logical to start questioning them how the experience innovation and Agile with Achmea.

The aim of doing this research was twofold. First, the aim is to collect data, and second the participation of the client (Innovation and Experience Centre Achmea IT) on the researched context. They are the problem owners. Awareness of their working context is essential to fulfilling this assignment, therefore active participation of the client during analysis of the data will help them understand the context. A full overview of the process can be found in appendix C.

1.5.1. Results

The research concluded with enablers and barriers for the brands and division to work Agile or to innovate. I then asked the innovation team at Achmea IT to map these enablers and barriers on two axises. (1, horizontal) the amount involvement and influence of the IT department or Business departments in addressing that barrier or enablers and (2, vertical) the important for Achmea to act upon these enablers or barriers. See figure 1.2.

The enablers and barriers including the position on the map allowed me to draw conclusion of the current situation regarding innovation, Agile and collaboration with IT. In appendix C a full overview of the results can be found.

Research results

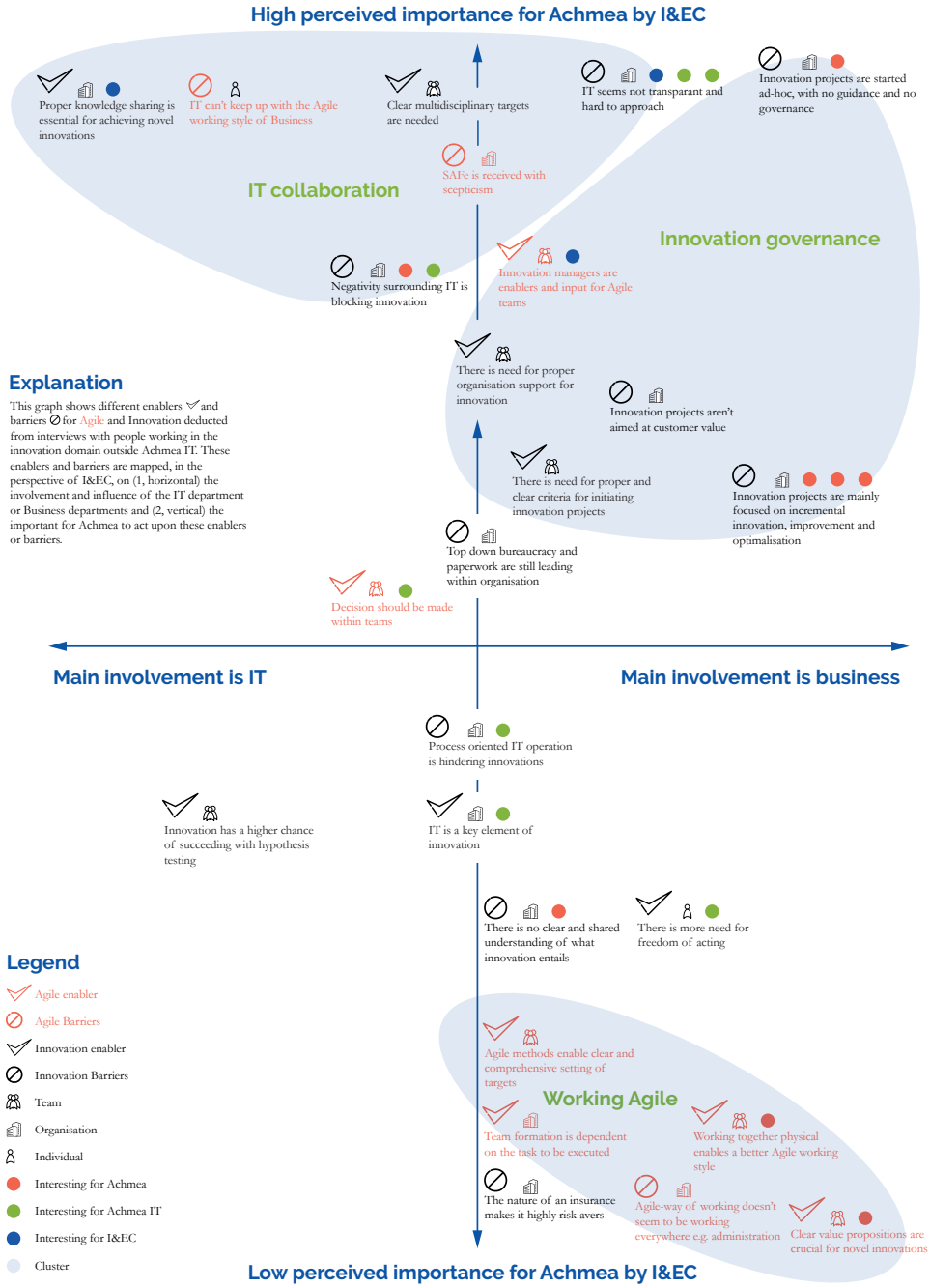


Figure 1.2. Mapping of barriers and enablers for Agile and Innovation.

Chapter 2

Agile Achmea, is it able to innovate?

Agile at Achmea

- The agile methodology
- Agile implemented at Achmea

Innovation at Achmea

- What is innovation
- Process and outcome of innovation

Digital innovation

Does agile work?

Chapter 2

Agile Achmea, is it able to innovate?

Agile is an answer for the need to address digital product development better. As such, Achmea has adopted Agile to react better to the increasing dynamic markets following the example of other companies. The current state of adoption within Achmea is mixed. Brands and division work mostly Agile. However, an Agile way of working might not work for IT.

Agile is way to create new products and services, to innovate for customers. But managers of innovation, themselves, acknowledge the lack of an Agile in the innovation process. They don't work Agile, but fuel Agile teams. But why don't the innovation managers themselves work Agile? This chapter argues that Agile methods are not able to completely support the activities needed for successful innovation and why Achmea should look beyond Agile as a means for innovate.

Key area 3: Working Agile

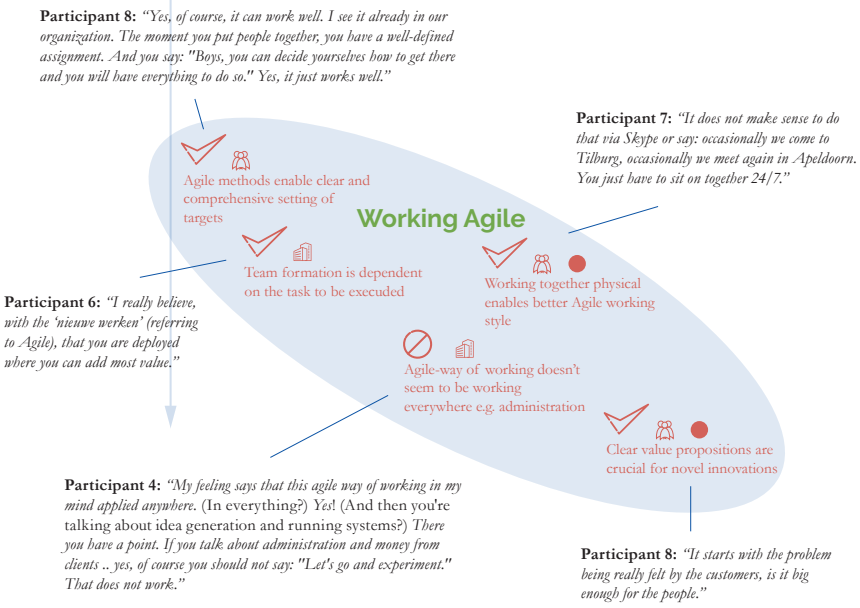


Figure 2.1. Results from research explaining the issues involving Agile

2.1. Agile at Achmea

2.1.1. The agile methodology

The increased need to manage the complexity of digital innovation has not gone unnoticed. It gave rise to an increasing number of Agile development methods in a variety of fields. Conventional Stage-gate approach to new product development are based on planning and focussed on life-cycle management. First a goal or a problem to solve is set, then research is done to gain deeper understanding of the matter, requirements are drafted, a solution is designed, tested and validated against the requirements. Little changes in the initial goal or problem is allowed (Nerur, Mahapatra, & Mangalaraj, 2005; Oswald, 2017).

Agile developments methods are evolutionary. Their follow the same sequent steps as stage-gate, but in rapid succession. Reflection on the initiate goal is crucial. The end goal is to have a solution that matches the context at all times. The end-goal of Stage-gate is to build something, use it and maintain it until it no longer matches the current needs. Agile is about continuously improving the product to the current needs of the context.

Agile approaches allow for more flexibility in a high dynamic environment. Numerous companies are adopting agile development processes to coop with their turbulent business context and to increase their agility.

Agility is explained as the ability to manoeuvre and adopt quickly to the changing situation, responding to change that makes the initial state unstable. (Tsourveloudis & Valavanis, 2002). The term 'agile' was first *"coined by a group of researchers at Iacocca Institute at Lehigh University in 1991. The group involved many of the senior executives of US companies and the study culminated in a two-volume report conveying an industry-led vision for a fundamental shift in manufacturing paradigm"* (Denning, 2013, p. 3).

In 2001 'The Agile Manifesto' was written by a group of 17 experts and scholars to fundamentally change the approach to software development (Beck et al., 2001). The manifesto harbours four values that are aimed at creating more valuable products and services for customers:

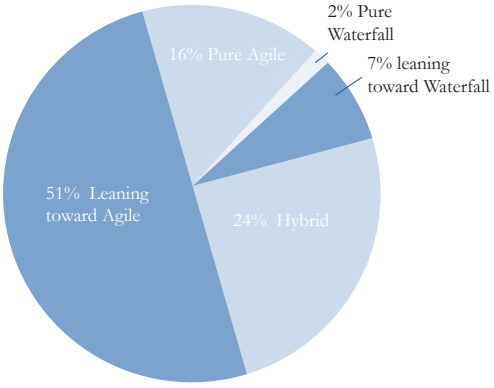


Figure 2.2. Percentage companies using Agile

1. Individuals and interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

Agile has been a breakthrough in management and thousands of firms across the world have adopted Agile as a mean to develop software. Resulting in the adoption of agile development methods in 67% of IT companies reported by IT professional in 2015, see figure 2.2. (HP, 2015). Agile "institutes a set of management practices and values based on customer focus achieved through iterative and incremental development, and where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams and their customers" (Denning, 2013). Achmea is experiencing the same shift.

> **Participant 8:** *"It starts with the problem being really felt by the customers, is it big enough for the people."*

An Agile mind-set will allow companies to be more sensitive to their environment which is convenient in dealing with dynamic markets. It is no coincidence that Agile was developed by software coders during a time, the 90's, where the internet was up and coming. The creation of products and the evolution of new product development is deeply intertwined. In the era of digitalisation this still applies.

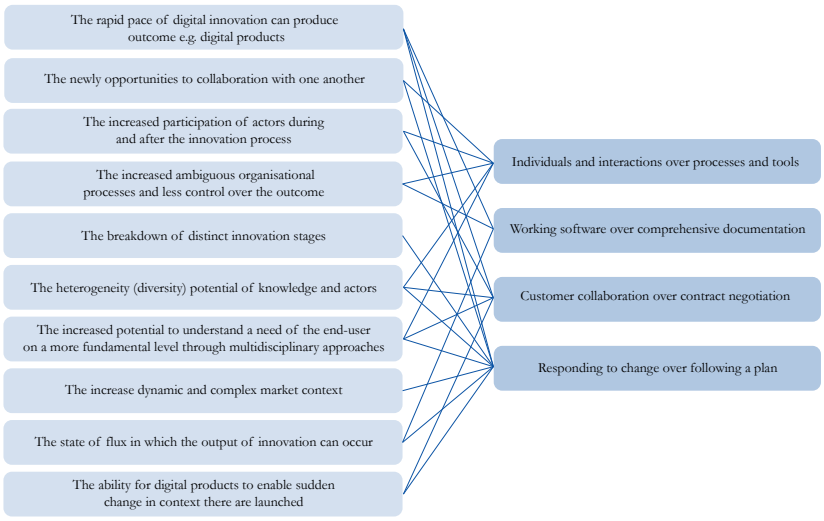


Figure 2.3. Link between digitalisation emergence of agile practices

Looking at 10 distinctions of digital product development and the Agile values, one could imagine how these values have manifested under the influence of the characteristics of digital innovation emerging in the early days of the internet, see figure 2.3. (authors interpretation of possible relationships between digitalisation and the Agile manifesto). I will come back and explain the impact of digital technologies on the innovation process in depth in the next chapter.

2.1.2. Agile implemented at Achmea

Based on my research at Achmea I can concluded that Agile is valued by the brands and divisions of Achmea, but not by Achmea IT. Which seems to be hindrance for the business side, because they expect to work in their preferred method, Agile, but are confronted with a partner that doesn't use it.

That doesn't mean the IT doesn't recognize the need for the business to work Agile. The innovation team at IT (I&EC) places high importance on the barrier 'IT can't keep up with Agile working way of the business for Achmea to be solved. But they don't see Agile as something beneficial for themselves. The enablers and barriers for Agile felt by the brands and divisions are not seen as important for Achmea to act upon by I&EC.

> **Participant 5:** (about Agile working style at IT in trying to match business): *"In general, they react uninterested, because it is of course the reality that they have too much ongoing business every day. But he did partake willingly and gave feedback and input where needed, if able."*

An explanation might be that Agile development, due to it's high iterative nature, demands a flexible IT infrastructure were features, software and solution can be quickly build and deployed. But the increase in software development within companies, also has increased the size and complexity of IT landscape of companies. As such, a large and complex information system has risen to accommodate all the business processes (Van Waardenburg & Van Vliet, 2013). Adding to the tension, the IT department is responsible for always keeping the system in a deployable state, creating a natural limit to the amount of flexibility an infrastructure can have. Scaling has become a problem for complex digital designs, because it is hard to implement a complex design in just one iteration in these vast and vague IT structures. (Bente, Bombosch, & Langade, 2012)

If an agile team would like to implement a new design it is often confronted with a certain amount of complexity in doing so. Agile deals with this complexity by breaking up to work in smaller bits. But its approach to complexity has a negative effect on the integrity of the enterprise architecture, because the overall system will

result is an unhealthy constellation of many sub solutions, simplifications and quick fixes. Furthermore, the aftermath to redo and undo changes results in a 'refactoring hell'. As such, it is hard for the IT department to ensure and security and resilient IT infrastructure that is always operational (Bente et al., 2012). Separating the development environment of products and the main IT infrastructure do have some benefits. BIModal IT and Service oriented Architecture (SOA) have been answers to these questions, but until today don't seem to address the needs of companies sufficient enough (Oswald, 2017).
In the area digitalization Agile is a fine project management method to develop software and deliver value to the customer. But Achmea IT has just cleaned up a messy legacy system. It is understandable that it is protective and reserved about changing the IT infrastructure. For Agile to work, it needs a flexible and supporting IT systems. However, Achmea IT fears lessening control will again result in a messy and costly infrastructure. This tension can be felt between Achmea IT and the business, and will be addressed in the next chapter.

2.2. Innovation at Achmea

For an IT organisation that just has set-up a neat IT infrastructure, working Agile seems to be challenge. But Agile also has been brought to the organisation to make the organisation more innovative. But my research reveals that working Agile on innovation is not perceived as equally important by all innovation actors at Achmea.

When asking the participants what they understand about Agile, their answers varies slightly. In general, Agile is understood as a mindset and the two most common Agile approaches mentioned were Scrum and Lean Start-up, although the participants were unsure about Lean start-up being a truly Agile method.

Lean start-up is not an Agile methodology, it is rooted in the lean-mindset. But compared against waterfall practises, Agile and Lean start-up are very close in execution; high iterative, no-nonsense and customer is the focal point (Flumerfelt, Bella Siriban-Manalang, & Kahlen, 2012). Agile is an approach to project management, Lean Start-up is a lean-methodology with similar characterises as Agile. Therefore, I place Lean Start-up under Agile in the context for this research.

The innovation actors at the brands are the ones most familiar with Agile methods, followed by the divisions and Achmea IT. Most innovation experiments are done in an Agile manner, but the innovation managers themselves don't work Agile. In the next chapter, I will elaborate more on how innovation is organised at Achmea. Innovation managers at the business side have mentioned to be more involved within Agile practises themselves, but would like to be less involved.

> **Participant 8:** *"At the moment, I still too much involved during the whole process. Our role should be to recognize those things in the outside world and inside the world at matter, bring that together, from inspiration, and then put it into existing Agile teams."*

The participants also stated that innovation activities of themselves could be used as input for Agile activities. Agile is a project management method, which could be used for innovation, and thus an Agile way of working is seen separately by the innovation actors form the innovation activities themselves.

Agile is an answer to digital product development and Achmea has adopted Agile to react better to the increasing dynamic markets following the example of other companies. The current state of Agile adoption within Achmea is mixed, Brands and division work Agile. However, Agile might not work for IT. And managers of innovation also acknowledge the lack of an Agile innovation process. Although innovation is more than the creation of new product and services, innovation is largely about creating value for the company and thus creating value for the customers.

2.2.1. What is innovation?

Anderson et al. defined innovation as *"the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things"* (Anderson, Potočnik, & Zhou, 2014, p. 2). There are hundreds off definition of innovation. I have selected this definition, because it's rooted in an extensive literature study on innovation oriented towards the creation of software products and services. Anderson is talking about the creation of something novel, something new. He talks about innovation as both an outcome and a process.

The outcome of innovation can be classified in many different ways, from process to product innovation, from technological innovation to market innovation (Anderson et al., 2014). But we are interested in the novelty of innovation, because Achmea regards innovations based digital technology as disruptive. And something truly novel is often disruptive. Therefore, I have selected the classification by Roberto Verganti (2012). And also, because Verganti explains the classification of innovation based on the novelty of technology.

2.2.2. The outcome of innovation

True' novelty is often revered to as radical innovation as opposed to incremental innovation. Radical innovation is often disruptive, destroying competence and enacting discontinuity with the past due to technology or product breakthroughs.

Norman & Verganti (2012,p5) summarizes the difference between the two categories of innovation as the following:

1. Incremental innovation: Improvements within a given frame of solutions (*"doing better what we already do"*);
2. Radical innovation: A change of frame (*"doing what we did not do before"*)

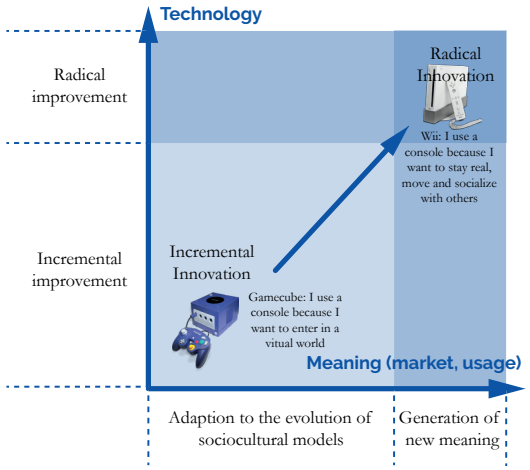


Figure 2.4. Novelty of innovation as described by Roberto Verganti

In earlier work of Verganti (2008), he states that radical innovation embodies a new meaning for people. The novel outcome of radical innovation can be preserved as an object that communicates through its design (function and appearance) as a language. Verganti argues that radical innovation expresses a new meaning to the customer and is often enabled by new technologies. This new meaning is a result of overcoming the current view on the behaviour of people. People's behaviour is affected by surrounding social and cultural factors. The way we make sense of the world is based on value and believes, a sociocultural model. The significant new view on the world, changes our sociocultural model.

For example, see figure 2.4.: Nintendo used a new technology, MEMS accelerators, to enable the user of its new gaming console, The Wii, to control the game with movement of your body. This also gives opportunities for complementary party games to be created. Hereby the new console changed in meaning for the customer. Previously consoles were meant to draw people into a digital world to entertain, but these new controllers (Wii remote) enable an entertainment from were exercise and social interaction was possible (Roberto Verganti, 2017).

Thus, Nintendo did not adapt to the sociocultural model of consoles that they are meant to submerges gamers in a digital world, but instead created a new sociocultural model. This was triggered and made possible by this new technology. The Wii could be seen as both a technology and market breakthrough. Although Sony already had the Playstation Eye to enable gamers to play party games controlled with the body, Nintendo technology was far superior and Playstation Eye was only a feature of the Playstation 2. After the Wii launched, Sony followed with the Playstation Move for the Playstation 3 a few years later using the same technology (*"PlayStation,"* 2017).

> **Example:** For Uber the new meaning they offered was a ride from A to B on demand. The old socio-cultural model was waiting on the side-walk until an empty gab arrived or you had to walk to a taxi spot. The new socio-cultural model Uber proposed to is customers is summoning an empty car to your spot to pick you up. It isn't hard to image that Uber really disrupted an industry.

For Achmea, this kind of innovation is relevant. If they wish to innovate in a market that is being disrupted by technology. Learning how to invent disruptive innovations may be useful to survive and thrive in this turbulent market. The socio-cultural model in the insurance branch is now based on trust in large organisation. Customers can cover their risks by being insurance by large corporations that are less vulnerable due to their size. These organisation manage and make sure they pay if damage occurs. However, digital technologies such as the blockchain allow for customer to organise themselves and secure 'trust' as rules in a system. This leaves the added value of insurance as thrust worth middle men obsolete. This technology and others will definitely change the socio-cultural model about risk. Approaching these threats as radical and disruptive may help Achmea in overcome them.

This is felt and understood by some innovation manager at Achmea, but that notion is only felt by them and less by senior management.

2.2.3. The process of innovation

Innovation is important to adapt to or change the current socio-cultural model. The process of innovation knows three important phases, see figure 2.5. The process can be regarded as linear, but the steps can take any form or shape. The first phase deals with the exploration and identification of opportunities. This phase results in more concrete ideas, value propositions or goals, which weren't clear before and have manifested over time. In the initiation phase the organisation becomes aware of the potential 'innovation'. The second phase is the adoption phase, which is often crucial in innovation processes as approval of high management is needed to allocated resources and to proceed with the innovation initiatives. This phase-

transition from the initiation phase to the implementation phase is needed to reflect and asses if the proposed innovation is suitable for assimilation and implementation in the organisation. In other words; "Do we think it is the way to go?" The last phase is the implementation, in which concrete ideas, value propositions and goals are realized (Anderson et al., 2014; Damanpour & Schneider, 2006).

This simplified process also reflects the Double Diamond design process for innovation of products and services proposed by the British Design Council (Design Council, 2005). The first Diamond of discovering and defining reflects the initiation phase and the second Diamond of designing and delivering the implementation phase. The transition between two diamonds clarifies a specific problem that needs to be solved. This is the value for the customer. A clear problem and goal is often what is required in the adoption phase to transition from initiation to implementation as it clarifies the direction of the project for decision makers.

Anderson, De Dreu, & Nijstad (2004) state that the initiation phase is associated with a higher degree of novelty in the outcome of the process. This is so called 'true' novelty is often only obtained by applying the initiation and the implementation phase in the process. Anyone in the organisation can come up with an idea or goal, and just go for it. However, skipping the initiation phase and just applying the implementation phase may result in ideas that are typically considered medium novel, which are mostly adopted and adapted from external sources. One could say, that the first phase deals with better identifying and adapting new socio-cultural models needed for radical innovation.

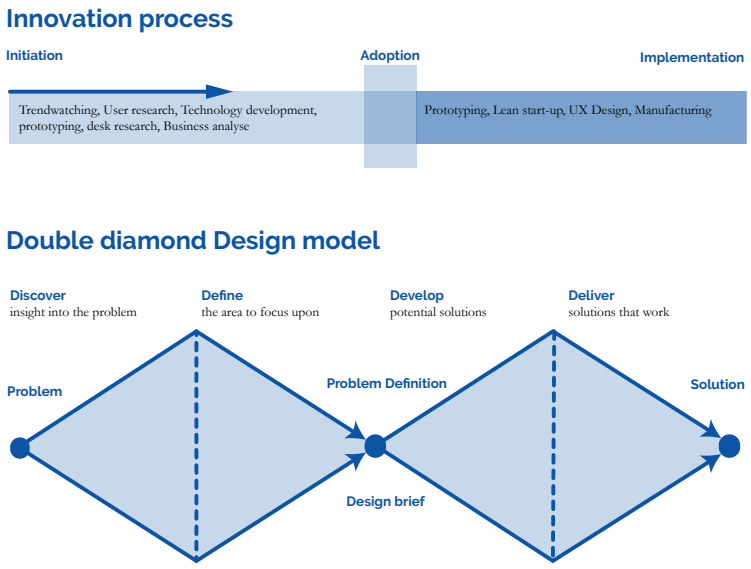


Figure 2.4. An abstract model of innovation stages

2.3. Digital Innovation

Achieving disruptive innovation means implementing practises that support innovation of meaning and great understanding of technological development. These practises are then organised in a process that has an initiation, adoption and implementation phase. However, this conclusion generalizes all innovation. Innovation based on Digital technology, Digital innovation may be different.

A better understanding of digitalization, and the digital technologies accompanying it, in specific is paramount for digital innovation. These digital technologies are a rebrand from existing emerging information and communication technologies. Four different information and communication technologies i.e. digital technologies can be distinguished that are associated with the digitalization phenomena:

- Analytic technologies and applications, e.g. big data and AI, allowing for innovative forms of information processing, for better insights and decision making
- Mobile technologies, e.g. smartphones and tablets, as well as applications that enable new business scenarios for customers, partners, suppliers, and employees.
- Cloud technologies and solutions that offer flexible and shareable digital capabilities (e.g., marketplaces, software as a service) to drive business agility.
- Social media technologies and applications that facilitate new forms of social interactions (Oswald, 2017).

The increased use of these digital technologies by organizations has affected them in many different ways. The impact of these digital technologies is driven by an increase of IT innovations. These innovations result in exponential growth in computing and data transmission speed, and an increase in storage and display capabilities of information and communication technologies (ICT) (Carlo, Gaskin, Lyytinen, & Rose, 2014). These innovations allowed organizations to optimize processes and to achieve a better operational excellence (Lederer, Kurz, Betz, & Schmidt, 2017).

At the same time, the increased use of digital technology has enabled a wave of service innovations (Barrett, Davidson, Prabhu, & Vargo, 2015) and the infusion of services themselves in traditional manufacturing practices and product offerings (Kowalkowski, Kindström, Alejandro, Brege, & Biggemann, 2012). For example; the car industry is more and more shifting towards a lease models and maintenance services.

The movement towards a more service-oriented product offering is almost always digital in nature. Services are used to exchange intangible goods, i.e. data. Some scholars suggest a service is an activity were two actors – a company and a customer in this case - create value together by collaboration and communication (Vargo & Lusch, 2008). As such, companies are heavily relying on information and communication technologies to provide services that enrich the customer experience. They are using more digital technologies within their products, and thus producing more digital products, such as mobile- or web-based applications. The utilization of digital technology in the creation of digital products, and thus also the operations of the organisation, has immediate effect on innovation processes. However, most studies on innovation are rooted in classic product innovation, dealing with creation of physical entities. 'Digital innovation' regarding digital products may not apply to the same rules as physical products. Especially on how innovation should be conducted (Nambisan, Lyytinen, & Song, 2016).

Digitalization in general is affecting product innovation in two different manners. First, the reduction of communication cost, increased speed and reach. This amplifies coordination and collaboration abilities of organisation. It allows for more distribution of control among participants in the innovation process. This is referred to as **digital connectivity**.

Secondly, digitalization results in increased knowledge and resource heterogeneity within the innovation network, coined **digital convergence** (Lyytinen, Yoo, & Boland, 2015).

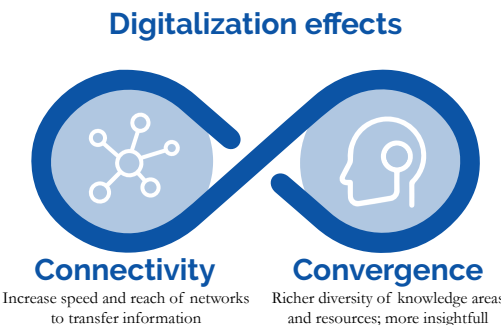


Figure 2.6. The two major effects of digital technology

To simplify, digital connectivity is about the amount and speed that information can be transfer, translated or transformed among actors and devices. Like more roads and faster cars increase the mobility of people in a country. Digital convergence is then about the result of this increase mobility, higher productivity and richer mix of people from different places.

Digital connectivity grands access to previously unobtainable information allowing for a richer understanding of the studied matter. These two properties have significant effect on the innovation process, from which several are listed below and are explained more elaborate in appendix B:

1. The rapid pace of digital innovation can produce outcome e.g. digital products,
2. The newly possibility to collaboration with one another
3. The increased participation of actors during and after the innovation process,
4. The increased ambiguous organisational processes and less control over the outcome,
5. The breakdown of distinct innovation stages,
6. The heterogeneity (diversity) potential of knowledge and actors,,
7. The increase dynamic and complex market context,
8. The increased potential to understand a need of the end-user on a more fundamental level through multidisciplinary approaches - adaption to the evolution of sociocultural models,
9. The state of flux in which the output of innovation can occur,
10. The ability for digital products to enable sudden change in context their are launched.

Thus, digitalization this effecting innovation on all front, the people who participate, the process structure in place for innovation and the very outcome of innovation itself. Is digital innovation different from traditional innovation? Yes, most definitely.

The initiation, adaption and implementation phase may be blurrier, but a clear adoption of the company is still required. The outcome is still something novel but, may be more incomplete. This could mean the implementation phase may never end, because customers keep developing the novelty further. This has opportunities to explore new possibilities in the initiation phase, again blurring innovation stages. The innovation model may therefore be more circular and less linear.

A clear distinguishing between initiation phase and implementation phase can still be made, although it may be in very different forms. And a clear adoption of the company is still required. Therefore, the simplified innovation model I proposed previously is still relevant. But it can't go unnoticed that the innovation process has become more complex. More actors, blurrier phases, unfinished products, rapid development and dynamic markets all fed by the effects of digitalization.

2.4. Does Agile work?

Is Agile than suited for radical innovation enables by digital technology? The most applied methodology is in Agile is scrum (HP, 2015). Scrum was developed by Ken Schwaber and Jeff Sutherland in the early 90s and was initially called 'Rugby', as the two found inspiration for Scrum in the sport. The basic concept of Scrum is that the activities are based on a fixed overall vision (ideas) instead of goals, targets or content. Because the context of the user is constantly changing, Scrum does not follow a master plan, only an idea. In this way it ensures the final product meets the users' actual needs and not the initial outdated requirements that do not match the current context anymore (Jongerius, 2013).

As Anderson, De Dreu, & Nijstad (2004) have stated by including the initiation stage during the innovation process it is more likely to produce more radical innovation. One could argue that only applying Agile practises, like scrum, during the innovation process will mostly like result in incremental change. This is backed by Roberto Verganti (2008) explanation why adaption to current evolving sociocultural models only result in incremental innovation.

In a way, Agile development is highly sensitive the world outside the development team. The constant iteration and prototyping allows for quick feedback of the context designed for. Potential evolutions of the sociocultural models can quickly be adopted, thus making the design products relevant for the current market how dynamic it may be. Agile is especially good at sensing the current context, so will the innovation coming out of this process perfectly fit the current context. You could say; Agile practises start with ideas at the adoption phase, skipping the initiation phase and start learning in a highly iterative way in the implementation phase. But incubation of knowledge in the initiation phase needed for overcoming current sociocultural views is lacking. Therefore, Agile practises are less suited to achieve radical innovation.

This academic knowledge can be consolidated into two graphics, the first - figure 2.7. - represents Verganti's scheme (2007) overlaid with the reach of Agile in creating new products and services and other manufacturing practises (Lean). I also include lean, because Achmea went into a Lean learning phase to continually improve and cut waste in the processes. The second represents the reach of these practises plotted against the innovation phases proposed in the is literature study, see figure 2.8.

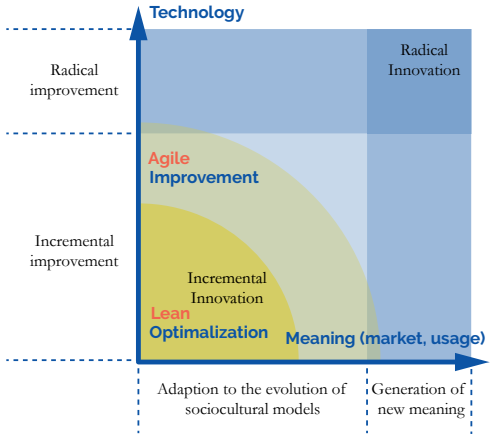


Figure 2.7. Development mindsets mapped on the expected outcome

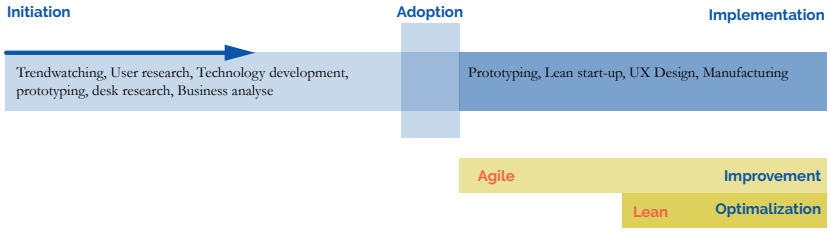


Figure 2.8. Development mindsets mapped on the innovation process

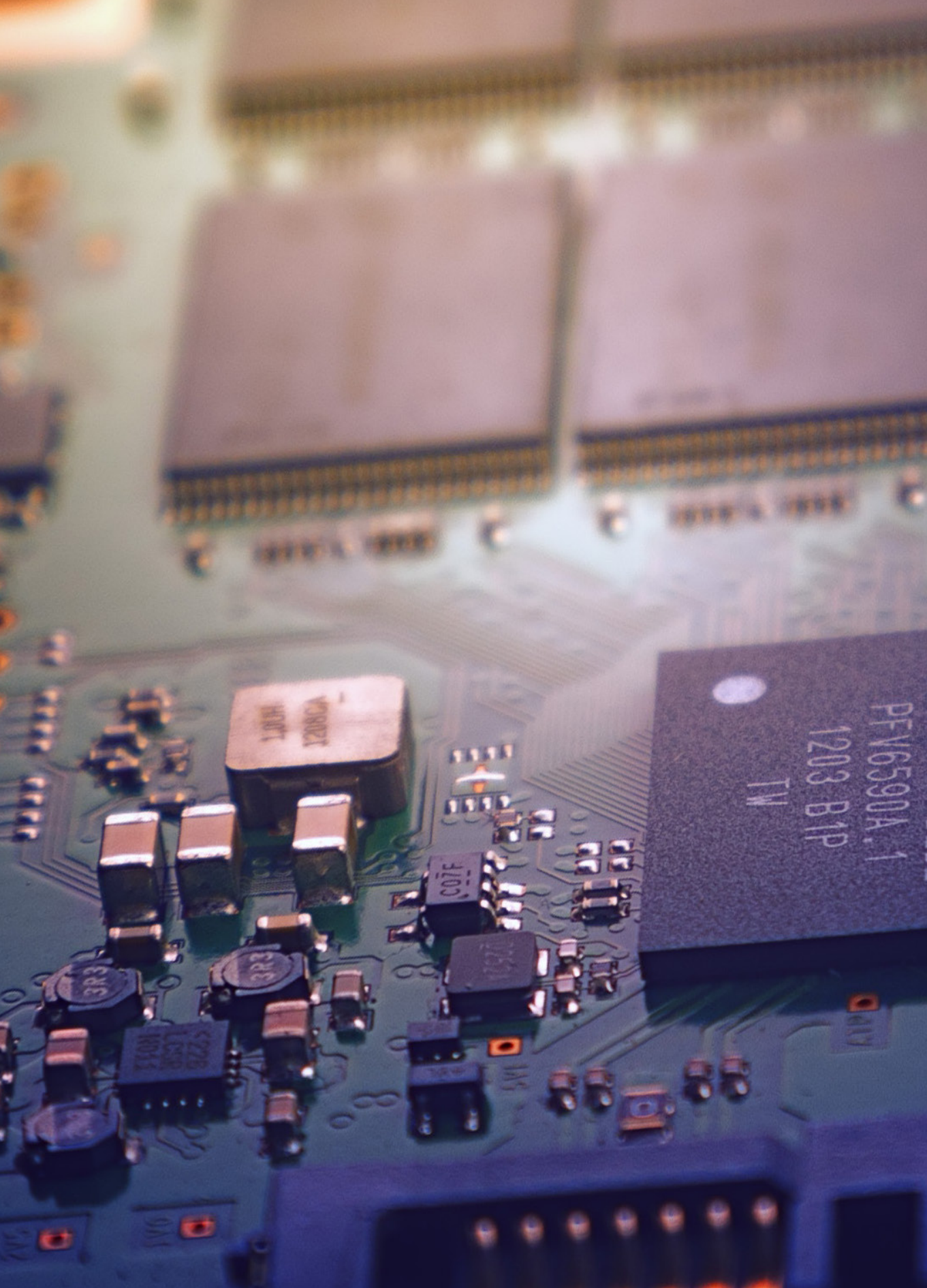
2.5. Conclusion

Digitalisation is pressuring companies to create new products and services with digital technologies. Digital technologies enable people and companies to collaborated in new ways. They are affecting the speed and amount of knowledge that can be shared. This increased accessibility allows for better understanding of the context among actors. It has increased the complexity by blurring innovation phases, the scope of which actors participate, the rapid pace of development and fluctuating state it is delivered. Digital innovation affects the process and the outcome.

Novel innovation requires a rethinking of the value you what to deliver to your customers. Therefore, innovation processes must facilitate imagining new interactions between people, technology and the company. Agile is meant to developed new products and services highly attuned to the current environment and doesn't allow for the imagination of new contexts for products to be created.

Agile software development has been a dominant force in creating digital products, but its methods may only apply to the creation of software and may not be suited to address the overall capabilities needed to approach digital innovation. Agile skips the initiation phase of the innovation process. The initiation phase is more important, because digital technologies allow innovation activities easier creation of new meaning for products, Innovation of Meaning e.g. radical innovation. And lastly, Agile is not suited to deal with the complexity of integrating new digital technologies into a vast and complex IT infrastructure.

It can thus be explained why innovation managers are reserved in using Agile practises. And why they feel Achmea in not innovating enough. Achmea has been batting on Agile as mean driver for innovation. But the current state of Agile within Achmea is ill-suited to cover the innovation process needed, nor are there matured Agile methodologies available to do so. It makes Achmea more customer relevant, but innovation needs to be address differently.


PFV6590A.1
1203 B1P
TW

Chapter 3

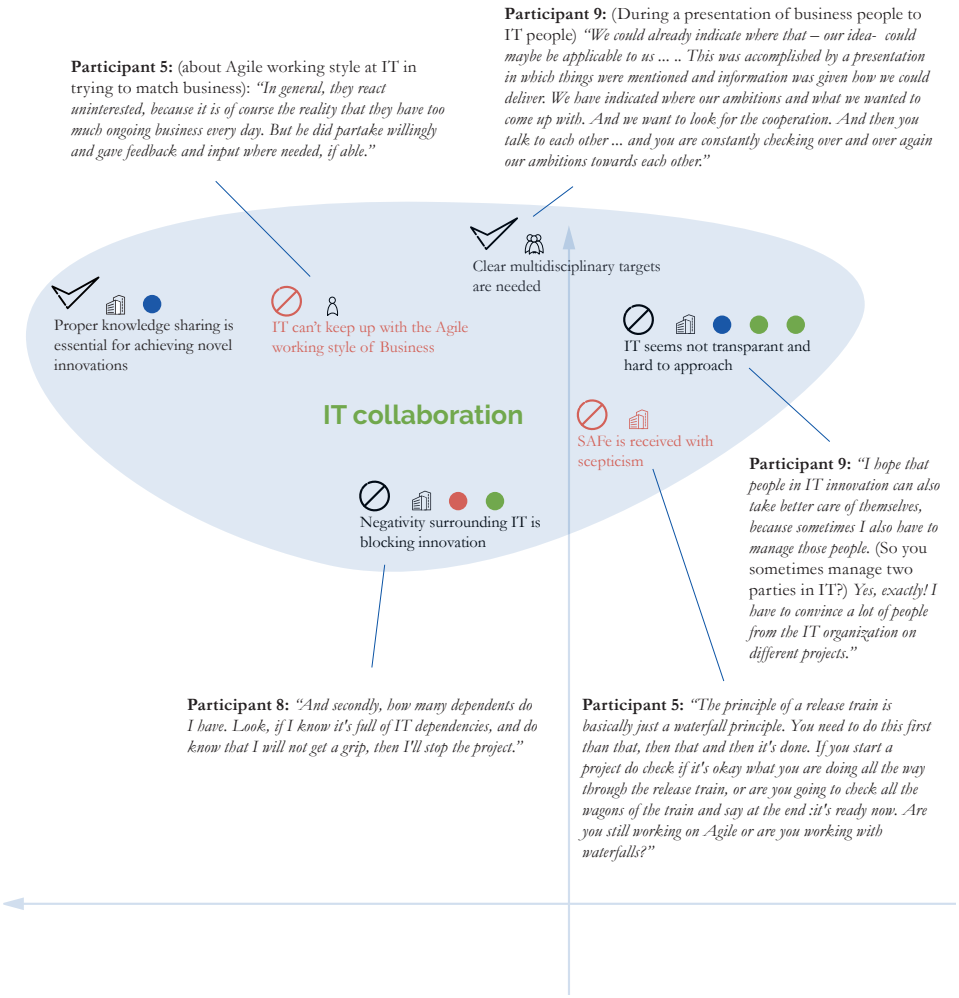
IT collaboration in light of innovation

Chapter 3

IT collaboration in light of innovation

So, if Agile is not sufficient to deal with Digital innovation, what and who is responsible? As earlier stated: “In this decade, digitalization as result of emerging technologies in information and communication field is recognized as a disruptive and powerful influence on the context of companies. New technologies enables companies to craft new meanings for products. Disruptive and radical innovation are prone to happen more and more as result of digitalisation. It is therefore crucial for these technologies to be understood by companies and how they effect innovation.”

Figure 3.1. Results from research explaining the issues with IT collaboration



3.1. Collaboration with IT

Within Achmea, Achmea IT responsible for the technological development. But the way this collaboration is perceived by the business is not all roses. The brands and division expect to find the help with IT knowledge by IT, but they are disappointed.

Within the study, I found that most innovation actors need IT people to work on a innovation project, because they lack the technological know-how to do so. Besides resources and knowledge to build new products and service, they are also in need of explanations how to applied new technologies – to understand what the technology is.

> **Participant 2:** *"And to understand what something can do, you must first discover it yourself. But then you must actively show what you can, and do not say: We're in Leusden* (location of I&EC) *and if you want understand it, come and visit us."*

Thus, the need for IT people during the innovation process has two sides: (1) IT expertise to build new applications and (2) IT expertise to assess and understand new technological developments.

The first may applied to the project management side of innovation process and the second may be more required during the process itself. But, innovation actors that the business side have made their relationship during innovation projects with Achmea IT very clear. The two barriers 'IT seems not transparent and hard to approach' and 'Negativity surrounding IT is blocking innovation' indicated a negative relationship with IT during innovation projects.

> **Participant 9:** *"I hope that people in IT innovation can also take better care of themselves, because sometimes I also have to manage those people. (*So you sometimes manage two parties in IT?) *Yes, exactly! I have to convince a lot of people from the IT organization on different projects."*

Both barriers create an image related problem; 'IT seems not transparent and hard to approach' and 'Negativity surrounding IT is blocking innovation'. The first barrier may a reason the latter barrier is felt this way by the business. The team does recognizes these barriers not to its fullest, but they find it important for Achmea to tackle these barriers. However, not acknowledging these barriers, could prove to be an obstacle to improve their image.

The brands and divisions see 'Proper knowledge sharing is essential for achieving novel innovations' as an enabler. This innovation enabler is regarded as highly important for the company by the innovation teams of Achmea. The enabler is about the sharing of knowledge in favour of innovation activities, most noticeability expert knowledge on IT and new technological developments. The Innovation team at IT views knowledge sharing of IT matters as important for the whole company, but feel they are solely responsible for doing this. They feel they must have ownership of this capability, although the business wants to collaborate and thinks they should share that ownership.

> **Participant 5:** *"I would like to see it in context. The knowledg*e (about what the technology is) *in itself, I can do that myself. But if somebody would have thought it through, like ... now, for us as a company, it means this and this, and we see*

opportunities here. We're going to experiment with this, or we'll try that. I would appreciate that."

Besides the two specific barriers, the overall position for the key area IT collaboration is perceived as within the influence sphere of Achmea IT. Based on this and all above, I concluded that Achmea IT takes a relatively inwards perspective towards collaboration. The heavy focus for years on cost-reduction and making the overall IT infrastructure more comprehensive and effective (Kleyngeld, 2012; *Samenvatting Group Businessplan*, 2016), may have contributed to a inwards looking culture.

The cost-reduction has had great results, and IT thus receives complement for it (De Jongh & De Vos, 2017). The increasing importance of the IT department in the digital transformation of the company may also put IT in the spotlight in an other way. This shift changed their roll within the company and increased their responsibility. Achmea IT may feel somewhat uneasy with this new role.
More on the history of Achmea can be found in appendix E.

3.1.1. IT collaboration with the brands in an Agile manner

Besides the shift in role of the IT department, Achmea IT has also to deal with Agile practises. And the current sentiment is that they also needs to work Agile. But as mentioned before, Agile is not necessarily a suitable approach for managing a large IT infrastructure.

Unsurprisingly, Achmea IT finds it hard to work Agile, which is also reflected in the reactions of the business. My research showed two barriers for Agile in collaboration with the business: 'IT can't keep up with the Agile working style of Business' and 'SAFe is received with scepticism'. These barriers in the Agile domain are explicitly referring to the involvement of IT as a barrier.
Achmea IT seems not able to match the needs of the business side to collaborated on innovation projects in an Agile manner. This applies in both the availability of resources and the sharing of expert knowledge needed for innovation projects. However, the need for the business to work in Agile manner may only apply when creating new products and services due to a market-pull incentive. Meaning that the business don't expect Achmea IT to educated them on new technologies in an Agile manner, but do expect them to participate in the building of new software. This is in line with were Agile is applied in the innovation process, namely the implementation phase.

In a broader sense, it appears that the availability of IT resource to help build application during an (agile) innovation project isn't only an issue within the

influence of IT. Another finding of this study that innovation activities are poorly structured and supported within the organisation, may also help explain the improper allocation of resources to innovation projects. This problem, however, is more related to the issue with the overall governance of innovation within Achmea. This topic is discussed in the next chapter.

3.2. Technology envisioning

The first need to involve IT in creating products, result from market pull innovation at the business side. They want to create products and services based on needs and wants of customers (Norman & Verganti, 2012) and need IT to realize the new products and services they envision.

The second need of the business to have a better understand what a new technology full entails is a reaction to the technology push happening in the industry. The business needs IT to understand these technologies, because they recognize their own limits in understanding these new technologies found in new disruptive products.

If the brands and division are more in need of understanding the technology for innovation, how can Achmea IT help them with this? Changing technologies can be drivers of radical innovation. The second driver for radical innovation is a new meaning of products. If both are combined real radical change can be achieved. But since Achmea IT is a technology department, I will use technology as a starting point for innovation.

Norman & Verganti (2012) describe two distinct types of radical innovation regarding technolog, see figure 3.2. The first is Technology-push Innovation, which is about new technological utilized for the same functionality. For example: SSD

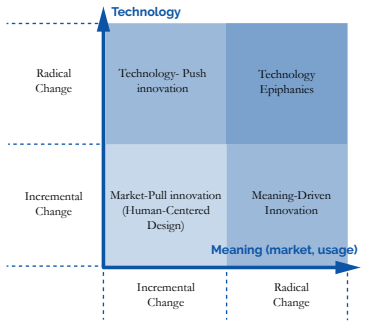


Figure 3.2. Factors to initiating innovation

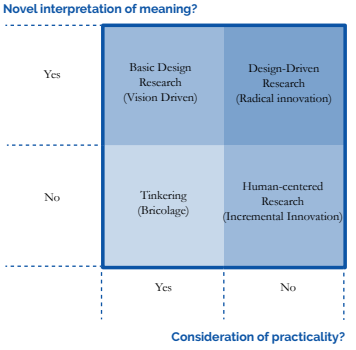


Figure 3.3. Approach to innovation.

replacing Hard-drives as storage units in laptops. The second type of technology innovation is Technology Epiphany. This type bring about radical change by delivering a new meaning to the customer enabled by new emerging technology, for example the Wii.

The importance of technology in innovation is also recognised within Achmea. Different innovation managers across the brands and the divisions have emphasized that technology is be an important driver for innovation for Achmea. However, technological innovation is seen as an enabler of innovation by the leadership (Strategische innovatiefunnel zakelijk, 2017). Technology enables the creation of new processes, products and services, but technology is not necessarily a starting point for innovation within Achmea. Innovation based on technology-push is thus not fully supported by the organisation.

> **Participant 2:** *"You really need a 100% technology push as well. Because there are things that the business will never thinking about. And only after you have seen it, you will say: ooh that's how it can be used. And if I can do that, I would like do this as well, this and this."*

Norman & Verganti (2012) identified Basic Design Research as an approach deemed successful in enabling technology-push innovation, see figure 3.3. Practices within this quadrant are to generate new meanings for users without specific consideration for applications. The output of this process in form of visions and understanding of technology implications for meaning inspired others to develop real world applications. STM Electronics developed futuristic product visions for their clients to envision new product, which lead to the development of the Wii. To achieve Technological Epiphany a Design Driven Research approach is favourable. Different from the previous approach this time the aim is to work towards real world applications.

Design-driven innovation is an approach to innovation based on the observation that people do. This goes beyond what people buy. They buy 'meaning' – where users' needs are not only satisfied by form and function, but also through experience (Verganti, 2009). Design driven innovation is different from User-centred Design and Traditional Industrial Design, because it aims to understand unmet needs of people. Often the process involves generative and participatory design approaches (Sanders & Stappers, 2012) and judgement of the designers (Roberto Verganti, 2017).

The figure on the next page is adopted from Verganti (2008), and shows how Design-driven innovation is positioned within the innovation process.

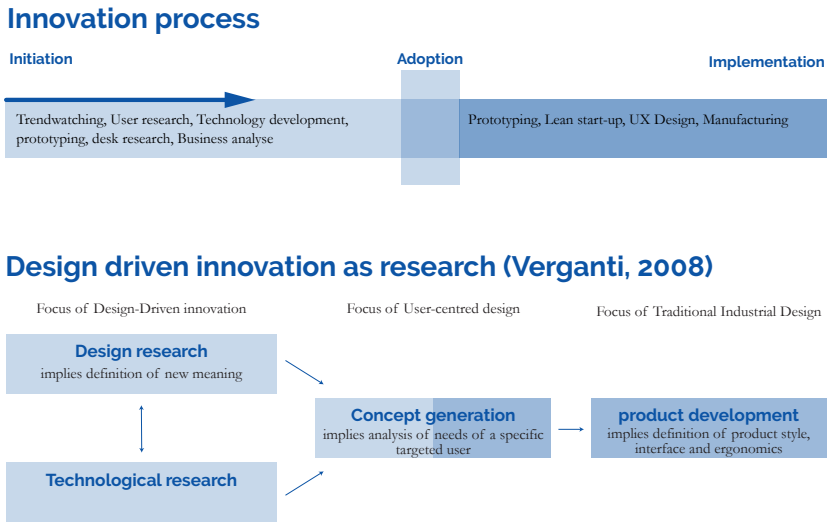


Figure 3.4. Design driven innovation mapped onto the abstract innovation process

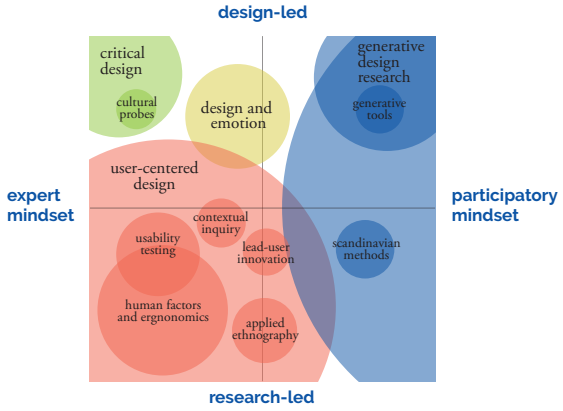


Figure 3.5. The landscape of Design research (Sanders & Stappers, 2012)

By projecting this framework onto our established innovation process, we see that Design Driven Innovation matches with the beginning of the initiation phase, because it is about researching opportunities for innovation. The User-centred Design approach is deemed useful to scope and ground opportunities to specific needs. This process is therefore suitable for the end of the initiation phase and the beginning implementation phase.

During the adoption phase a company should already have enough knowledge to decide to pull the plug or not. The Traditional Industrial Design approach is deemed suitable for construction of the innovation and thus the last part. Arguable

Agile software development has elements of user-centred design and is all about creating software, therefore part of the framework could be substituted with Agile software development. Thus, the application of Basic Design Research will help companies to be more novel in their innovations based on technology. Basic Design Research in this context aims to explore future context of people and how they may use products. Basic Design Research helps to envision future products.

Design research is broad area, figure 3.5. shows the landscape of design research (Sanders & Stappers, 2012). Research aims to collect insights to better understand the topic. A kid in high school writing an essay on bonsai trees can already be regarded as research. Research in the field of Design typically involves uncovering needs and wants of people, market dynamics and the interaction of people and products. Designers use a variety of tools and methods to collect insights, which don't necessarily originate in the field of design, such as SWOT-analysis, ethnographic studies or observations. (Norman & Verganti, 2012).

With this new knowledge, we can update the figures of the previous chapter, see figure 3.7. and 3.8.. The combination of technological research and Basic design research resemble a new product design process very closely, therefore I will refer to Product design as a means to achieve novel innovations with technology. Currently, none of the actors have real resources or a concrete process dedicated to the initiation phase. Therefore, the Product Design approach is coloured grey. However, within Achmea Agile is present and being successfully used for incremental innovation, especially at the marketing side of the business. The innovation capabilities of Achmea are more in depth address in the next chapter.

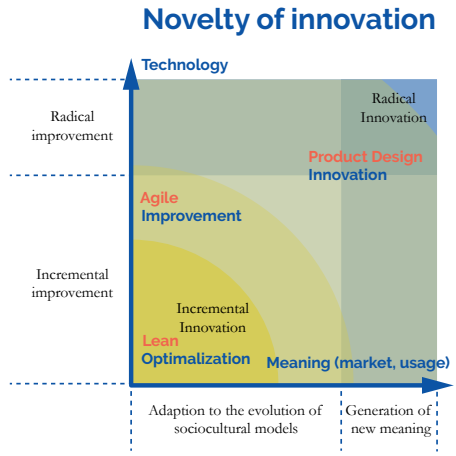


Figure 3.7. Development mindsets mapped on the expected outcome

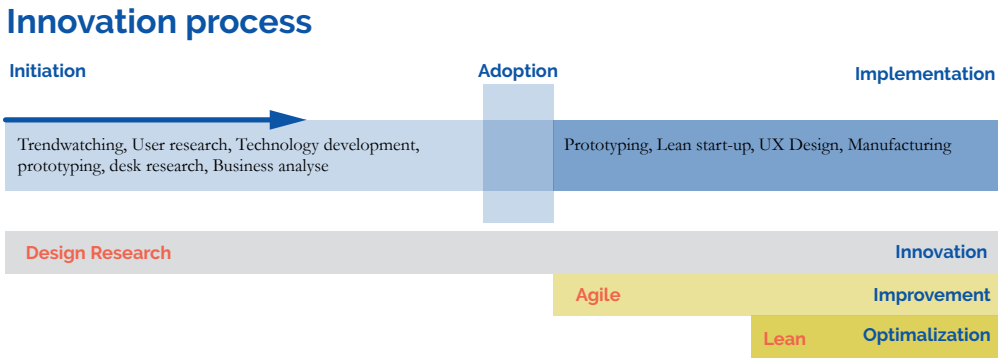


Figure 3.6. Development mindsets mapped on the innovation process

3.3. Product design for the IT department

As digital technologies are disrupting current markets and changing the context of companies is changing fast, the need increases for companies to understand a need of the end-user on a more fundamental level. Solely doing technological research is not enough to understand the implications of technology in the future. Companies need additional Basic Design Research to have an answer to the rapid change. The creators of the chips that were used in the Wii controllers, STM electronics, were also involved in these practises, which payed off huge: "*We started to envision possible applications in different fields. The basic idea was to think more abstractly of what MEMS could provide in final products: information on movement and position. This can be used for automation, or, even more interestingly, for simplifying human interfaces. Then we proposed our envision application directly to the most innovative engineers of potential clients in the current or new markets." (Verganti, 2009, p. 83).*

Currently, within Achmea Basic Design Research is not explicitly present. However, because design research draws from a variety of fields, elements to construct basic design research may already be present within Achmea. For example, Achmea has a Customer Arena which is a periodic focus group. Customer journeys already exist at most of the brands. It may be feasible to bring these different elements within Achmea to build some sort of preliminary design research capability.

Achmea IT is lacking any activity in collecting insights for the creation of products, but does have a team dedicated to technological research. However, my study has shown it is not enough to innovate properly. The business asked for Achmea IT to show them how new technology could be used in a future context. However, Achmea IT is currently not able to do this, and can't match the request of the business.

Participant 5: *"I would like to see it in context."*

Verganti suggest to use technological research in combination with Basic Design Research to envision how future products may sever people, which is exactly what brands and divisions have asked for at Achmea, and other companies such as STM electronics already is doing with huge business success.

Utilizing design research alongside technological research also is beneficial for the company in relation with its IT infrastructure. Because their infrastructure is meant to support business processes that deliver value to customers, the IT infrastructure in a sense is a reflection of the products offered by the company. Envisioning future product therefore will help EA to envisions the future state of the IT infrastructure and plans towards that future state (Bente et al.,

2012). Furthermore, studies show the lack of a vision and understanding of the implication of digital technology on competitiveness is named a fifth (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2013) and second (Bughin, Holley, & Mellbye, 2015) in most important barriers in the digital transition of companies.

Furthermore, technology envisioning and the sequential step technology roadmapping yields overall benefit in competitive advantage by better matching product releases which market dynamics, thus decreasing time-to-market and time-to-money (Simonse, Hultink, & Buijs, 2015). Technology envisioning also helps the business respond to market dynamics. Therefore, I will argue that Achmea IT, or Achmea in general, needs to build basic design research capability to envision future products based on new disruptive digital technology.

3.4. Conclusion

In general the collaboration between IT and business can be summarized as follows; The business is in need of better collaboration with Achmea IT for technological knowledge and resources to build new products and services. Achmea IT is focussed inwards, which can be explained by the years of cost-reduction and the new role they are forced to take. The image of Achmea IT not being transparent and hard to approach isn't fully recognised by IT, which could be an obstacle in solving the negative image. Moreover, the struggle to work Agile by Achmea IT is also hindering the collaboration.

Achmea IT is in searching how to respond to the increasing need of them to be more involved in the creation of new products and services. Design research could be the answer. It would allow for better understanding on how technology will impact the future. It will help to educate the business about technology, and also the general understanding of technology in context.

How the dynamics between Achmea IT and the business should be to create better technological innovations, is explored in the next chapter. Achmea's brands and divisions right now ask Achmea IT to deliver something they didn't do before. It has changed the dynamics of collaboration between IT and the business. IT needs to take the lead more in creating new products and services with technology. Their roll changed and my explain the uneasiness of Achmea IT right now. Building design research capabilities will help them better meet the needs of the business and better fulfil this new role.


EXIT

Chapter 4

Innovation governance at Achmea

Chapter 4

Innovation goverance at Achmea

Besides having insufficient capability in the area of design research, Achmea also has the issue of not having a proper organisational structure to support innovation. The main conclusion of my research also matches an internal rapport stating the company has a hard time governing more novel innovation (Dillema's strategische innovatie, 2017). That is, innovation in the area of business model innovation or strategic innovation. In general these issues are about more radical innovations, and are adressed in this chapter.

key area 2:
Innovation Governance

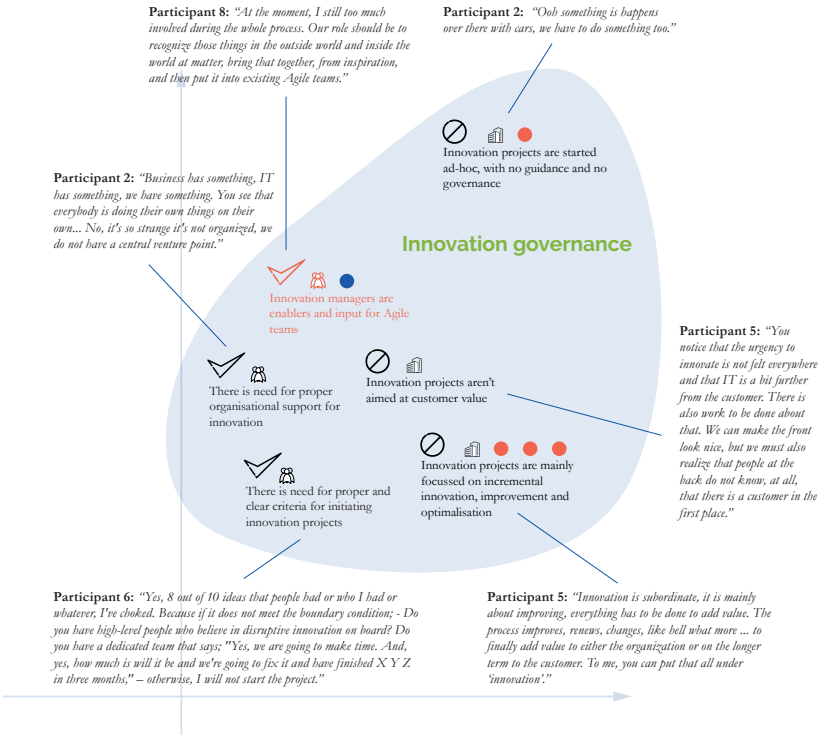


Figure 4.1. Results from research explaining the issues with the governance of innovation

In the previous chapter we have concluded that Achmea has some processes in place for basic customer and technology research. Although this is not enough capability to reach the level of innovation needed to answer digitalisation, it still very useful as a starting point to build that capability.

Unfortunately, today different innovation actors aren't reaching out to one another. So, why would they do this in the future? The introvert mindset of IT can't possibly be the only reason. This chapter explores additional reasons why innovation actors across Achmea aren't bundling their strength. TThe area of attention gives also the key insight in how technological innovation might spread and succeed at Achmea.

4.1. Different innovation styles

All the innovation actors work in different styles, have a different starting points and work on different topics. In the figure 1.1. An overview can be found of aims, methods and viewpoints. Full persona's of each innovation party can be found in appendix A.

It is import to notice that a strong approach how innovation must be conducted is lacking in the organisation. All actors have different viewpoints and different way of doing things. For example, the brands-department really wants to use start-ups and Agile innovation projects, because these yield direct results for customers. But I&EC at Achmea IT want to do experiments, testing and validation, because they value security, integrity and certainty above customers.

All the different teams lack a well-defined innovation process. However, a structured process to allocated resources to different projects is present. It is adopted from the road mapping and portfolio management practises. As result all innovation projects are handled like regular projects and thus needs approval of higher management. The projects need to get approval of higher management which is done by signing a Project initiation form (PIF), see figure 4.2. The innovation process is different from portfolio management as it has a funnel to regulate incoming projects and ideas. This funnel is a typical Stage-gate process. Although most projects are taken up in an agile-manner, the initial selection of ideas are still stage-gate. The funnels across Achmea differ somewhat in the stages, but all the funnels have an idea generation, market analyse, experimentation and implementation phase.

These funnels are combined into a general company funnel by the 'core team innovation' in order to get a sense of all the innovations within the company. However, all these funnels are fuelled and managed differently and have different criteria and starting points. Discussions on what innovation is and if a projects is

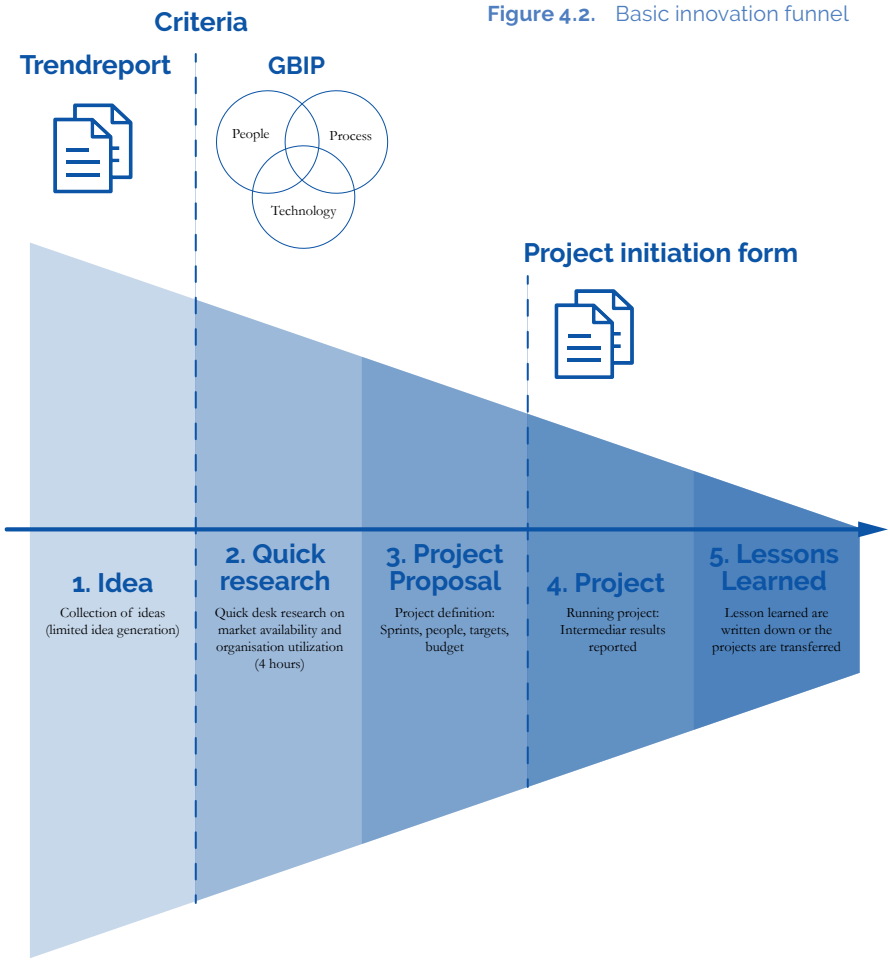


Figure 4.2. Basic innovation funnel

regarded as innovation are not uncommon among innovation managers, whom manage the funnels. Disagreement and gossip are experienced by the employees.

4.1.1. Innovation managers

All innovation actors can be generalized as managers whom scout, asses and launch ideas into projects. The innovation manager keep being involved in order to move the project forward. They are not really involved in the development of an idea during the project. Activities such as trend watching, conference visits, expert insights and basic envisioning exercises are used to get a sense of direction for these innovation projects. Innovation managers change the criteria for the funnel based on these activities.

The sense on how to manage the funnel and the projects within is different from actor to actor, even within the same innovation team. The reason why this is different is never made explicit in documentation. The innovation teams grew gradually iton what they are today. The team members at I&EC confirmed these observations, and recognised in retrospect what has happened. For example: The Innovation & Experience centre IT evolved from a model office team, which was tasked with assessing new technologies for the Enterprise architecture, into an innovation team that asses technological development for Achmea in general.

Each departments has more specific criteria for a project or idea to pass through. For example: Brands asses ideas on the value for the customer and IT based on people, process and technology. But in my experience these criteria are almost never uphold. Innovation projects often start only if a team can be assembled to do the projects. In order to do that, innovation managers are highly dependent on senior managers. For senior managers to be convinced, a good story is more important than matching criteria.

> **Participant 6:** *"Yes, 8 out of 10 ideas that people had or who I had or whatever, I've choked. Because if it does not meet the boundary condition; - Do you have high-level people who believe in disruptive innovation on board? Do you have a dedicated team that says; "Yes, we are going to make time. And, yes, how much is will it be and we're going to fix it and have finished X Y Z in three months," – otherwise, I will not start the project."*

4.1.2. Mapping innovation activities

The interviews also allowed me to better map innovation activities of the different departments. The first mapping is an improved map of the categorization Achmea uses (Strategische innovatiefunnel zakelijk, 2017). The triangle in figure 4.3. shows which department are dealing with what kind of innovation. The innovations that are on a more strategic level have more involvement of the Market Strategy. However, Market Strategy can be included with the Divisions, because they are the ones execution most of the innovation.

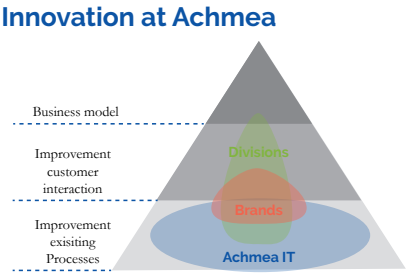


Figure 4.3. Innovation of departments at Achmea mapped on their model

The reason for mapped Achmea IT only in the 'Improvement of existing processes' is, because most of the projects within the funnel are aimed at improving business processes or capability building. The projects

that have a use-case or business-case are in collaboration with the brands and the divisions. These projects are stronger linked to customer value, but are still aimed at improving business processes.

Market Strategy, which can be lumped together with the Divisions, do have some innovations aimed at improving customer experience. Innovations such as Roadguard or Activity are indications that it is possible, but both innovations do not originate from the innovation programme. Roadguard, for example, was made by employees outside the company innovation process. Roadguard has been pushed by Centraal Beheer (a brand of Achmea) and is develop with help of an external party.

The divisions and brands are also closely mapped to Achmea IT. Most of their innovations are still aimed at improving these processes. The innovations aimed at improving customer interaction are mostly gimmicks, such as gifts and coupons, or products features to increase the value of existing products. There are some exceptions that result in complementary products to increase the desirability of the main products. For example; Healthcare insurer Zilveren Kruis launched an app called Holiday Doctor. Customers on holidays with an healthcare insurance at Zilveren Kruis are able to chat with doctor in the Netherlands to get quick medical advice ("Overal medische hulp op zak - App de Vakantiedokter," 2017).

Based on this mapping none of divisions or brands is able to innovate sufficiently, except for Achmea IT. However, technology is also a driver for innovation in both the business model and customer interaction area. Thus, Achmea IT also is accountable for the innovation outcome at other departments. And in chapter 3, it was concluded the brands and divisions are in need of support of IT in order to innovate properly. Although Achmea IT is doing fine for themselves, technological innovation at Achmea is lacking.

4.2. Innovation novelty is limited

The innovation managers at the business side see two barriers regarding the output of innovation. (1) 'Innovation projects are mainly focused on incremental innovation, improvement and optimisation' and (2) 'Innovations aren't aimed at customer value'. Both are indicating that the actors aren't satisfied with the novelty produced in the innovation process. This view point matches with the notion of the previous chapter that expert knowledge and participation in the technology area is needed at the business side.

> **Participant 5:** *"Innovation is subordinate, it is mainly about improving, everything has to be done to add value. The process improves, renews, changes, like hell what more ... to finally add value to either the organization or on the longer term to the customer. To me, you can put that all under 'innovation'."*

But it isn't the full story. Vice versa; Achmea IT is not interested in the customer, because it is tasked with innovation at the back-end. This results in less innovation based on technology that will reach the customer directly.

> **Participant 5:** *"You notice that the urgency to innovate is not felt everywhere and that IT is a bit further from the customer. There is also work to be done about that. We can make the front look nice, but we must also realize that people at the back do not know, at all, that there is a customer in the first place."*

The mapping of innovation process and outcome within Achmea on Roberto Verganti's scheme of innovation of meaning, may explain why innovations aren't novel enough, see figure 4.4. Achmea IT is tasked with the innovation based on technology, so naturally you will expect them to be higher at left side of the scheme. However, since the IT department is only active in technology scouting and not the development and exploration of new technologies, their ability to create novel creations (radical improvement) based on technology is limited.

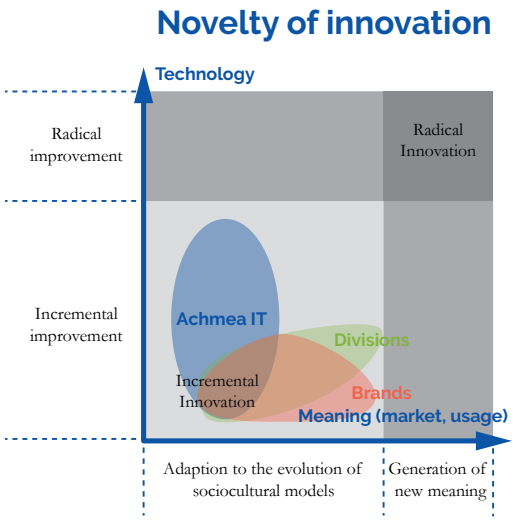


Figure 4.4. Innovation mapped Verganti's scheme

For the Brands, Divisions and Market Strategy this will be limited to incremental innovation as well (adoption of the evolution of sociocultural models). Most of these actors are working in the marketing department and are using Agile methods to innovate. Therefore, they have a high attidute towards the current sociocultural models. None of them have processes in place for them to generate insight into deep user needs and new meanings. Although the emergence of new meaning may always be possible, the chance of it happening at Achmea is very low.

In figure 4.5. I mapped the activities of all actors on the axis of the innovation process I established during my literature review. The three additional layers on the bottom represent the different actors.

Although none of the actors have a matured process in place for the initiation process, some activities are executed for to make sense of the fuzzy front end. For example, the divisions make use of themes to innovate, and use future horizons to help them in their decision making. The brands are mostly only guided by customer insights and brand promises. Although occasionally consultancies, such as Muzus ("*Cases - Muzus,*" 2017) are hired for deep customer research to uncover unarticulated needs and gain additional insights. But the strength of the brands within Achmea is the realization of products through Agile.

And finally, IT is experimenting with new technology to forecast future business requirements. They use some basic market research activities to identify potential solutions and they are strong in the trend scouting of technology, which is shown in an annual technology trend report.

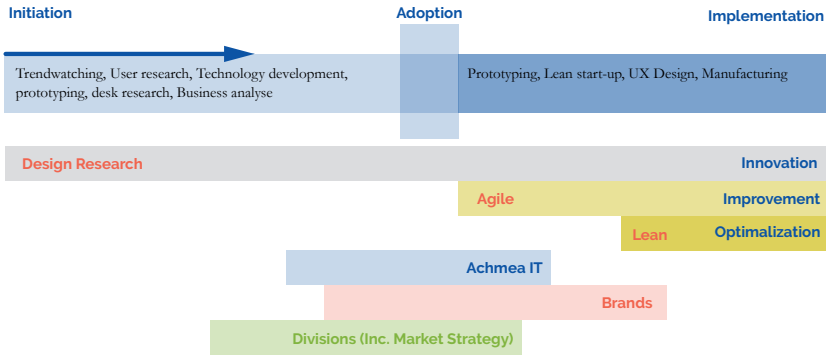


Figure 4.5. Departments mapped on the innovation process

4.3. Incoherent innovation process

The next figure shows a more graphic representation of the innovation process. The initiation process is all about discovering and scoping. The discovering is presented by the converging cone, were ideas and insights come and go. The scoping and focusing within Achmea is made explicit. Each innovation actor has a funnel were ideas flow through. This funnel is meant to capture ideas and to asses what is worthwhile to pursue. After the idea is adopted by the company, the project will go into an Agile or Lean Start-up development programme. This is represented by the pipeline in which ideas are build tougher and tougher against criticisms, see figure 4.6.

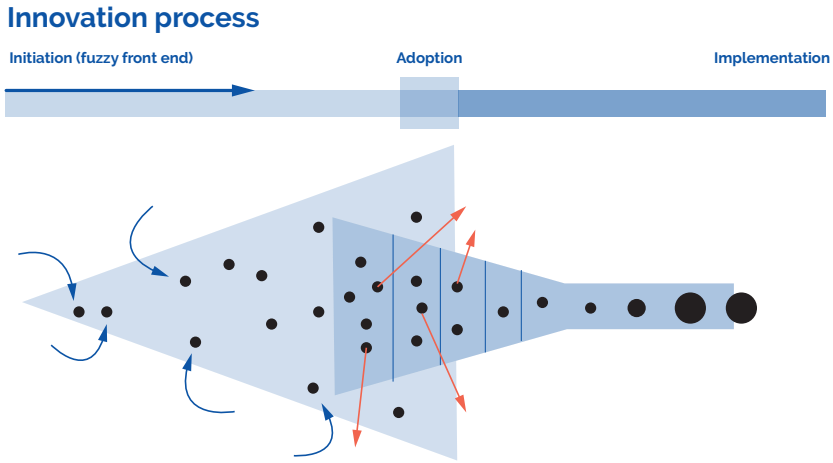


Figure 4.6. Place ogf the innovation funnel

Successful product developed considers three main topics, (1) desirability for the user, (2) viability for the business and (3) feasibility of for construction (technology)(Weiss, 2002), see figure 4.7.

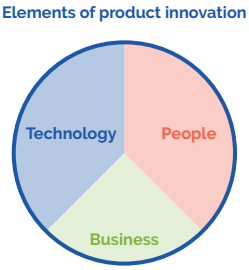


Figure 4.7. Innovation domains

For the sack of clarity let's make a simplification regarding these elements. The Innovation & Experience centre IT at Achmea IT is focussing on technology and feasibility. In practise they are only focussed on process innovation, but they should also be involved in new product development.

The new business developers are focussing on the user needs, thus desirability. And the divisions are more orientated towards viability. Although all elements are required in one form or another for all actors to innovate successfully, this simplified categorization may prove insightful.

The different focus on the outcome of the innovation processes, leads to the actors approaching the innovation process differently. The process to generate ideas and insights is also is very different, for example only I&EC uses technological trends. The innovation process is therefore scattered among the actors. Not all elements of product innovation are represented or valued the same in the specific innovation process of each actors. Figure 4.8., is a representation of how different and uncompleted each of the innovation processes are for each actor.

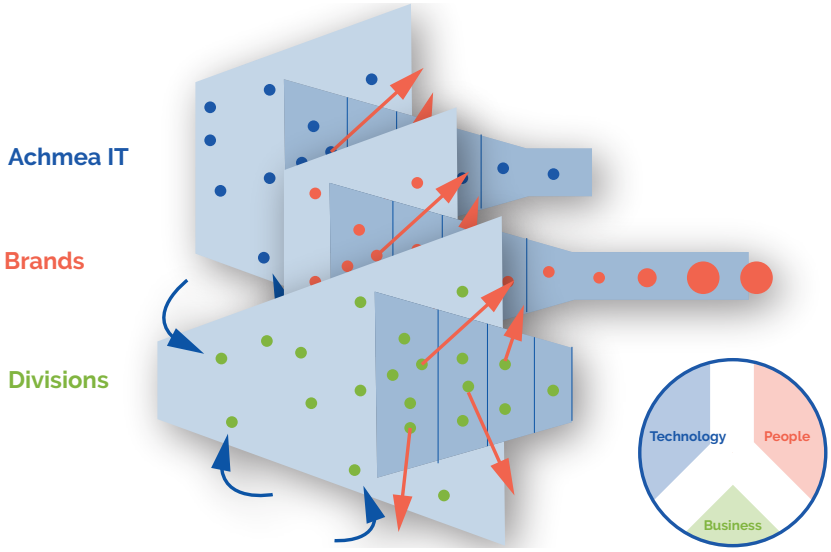


Figure 4.8. Innovation funnels are Achmea

None of the actors, or a combination of actors is able to cover the complete scope of the innovation process. The organisation of the innovation process at Achmea is thus not well suited to deliver reasonable novel innovations. Therefore, it can be concluded that the innovation process within Achmea is immature and insufficient. This is also supported by the internal report and by the leadership of Achmea. The internal report recognises the missed opportunities for cross-collaboration between departments (*Dillema's strategische innovatie*, 2017). And in a recent interview Willem van Duin, CEO Achmea, publicly asked Chris Heutink, CEO Randstad, for advice how to innovate efficiently regarding this issue (De Jongh & De Vos, 2017).

Clearly, the innovation processes at Achmea are not coherent and not aligned to complement each other. Although we previous stated that Agile practises are insufficient for a complete innovation process, elements of Agile may have an answer in solving this poor collaboration, as one of Agile's key elements is the multidisciplinary setting.

> **Participant 9:** *"It is true that all initiatives (Agile) are usually more successful if you are in at the preparing together before of collaboration, with the same people at the same time match perspectives. That you are sitting at a table and do not solely depend on documents off your own expertise, but that you are busy discussing with each other what the next step can be."*

4.4. Innovation alignment with the organisation

Innovation at Achmea is scattered and decentralized. Different teams through Achmea are working on the topic of innovation. But my research shows the actors also feel misalignment between innovation projects and the organisation. They feel there is a lack of organisational control and commitment to coordinate all these innovations.

> **Participant 2:** *"Business has something, IT has something, we have something. You see that everybody is doing their own things on their own... No, it's so strange it's not organized, we do not have a central venture point."*

The barriers 'Innovations are started ad-hoc, with no guidance and no governance' could be a reason why the enabler 'There is a need for proper and clear criteria for initiating innovation projects' is mentioned. The underlying data suggest that these barriers are more about operational issues than strategic issues. This is further supported by the enabler 'There is need for proper organisational support for innovation'. The actors don't feel supported by Achmea to innovate within the interest of Achmea as a whole.

Actors feel this misalignment is not only present between the activities of the innovation actors themselves, but also with the daily operations of the organisation. Projects and initiatives regarding innovation often relay on resources allocated to other priorities than those of innovation projects, such as regular portfolio projects. *"We accept projects based on business-cases. These business-cases need to be 75% based on data to be sure."* (De Jongh & De Vos, 2017, p. 4). I seriously doubt if innovation projects can have a business-case with 75% certainty.

This struggle is reflected in both the available manpower and the organisation structure in which innovation projects are approved. For example: Innovation projects are regarded as regular projects with in the decision-making process and must also include a Project Initiation Form (PIF). Most regular projects have representatives present during key decision moments in meetings. But representatives of innovation projects are almost never present in these meetings to uphold the interest of innovation projects. This is also recognised at Achmea, the same internal report states the lack of proper support from HR and governance as issues that are hindering innovation (*Dillema's* strategische innovatie, 2017).

In chapter 3 innovation managers stated that their activities could be, or should be, input for starting Agile practises. They acknowledge that fully embracing Agile methods, like scrum, is not useful for their activities. However, in an Agile organisation not matching the pace of the Agile team is very disrupting for the workflow.

4.5. Why is Achmea involved in innovation activities?

Achmea struggles to innovate. As the overall performance is not the desired level. A other possible reason could be the lack of direction with Achmea. Achmea has a reason to innovated and that is the disrupting technology-push in the insurance market.

However, they do not have a clear sense in what direction they want to innovate. A clear stated vision what the end goal is, a purpose, of the company is lacking. For employees it is hard to assess how and what innovation should contribute to the company. Currently they have the following vision/mission:
"With leading solutions everyday, we want to be relevant to our customers. But we will do it together. We continue to do what we have always have done. At the same time, we want and can be more for our customers" (*"Over Achmea,"* 2017).

Although they are explicitly saying that they want achieve customer value in general, they are not explicit about what that value should be and why. The vision stated on the website has been changing a couple of times between March 2017 and October 2017. Some versions of the visions do state a better customer value, but none of them state a reason why that is important.

In their annual report of 2016, they first stated a comprehensible reason for why they are doing things, see the 'Why do we exist?' box in figure 4.9. However, it is still a broad description, and it doesn't set a future state of the company. When

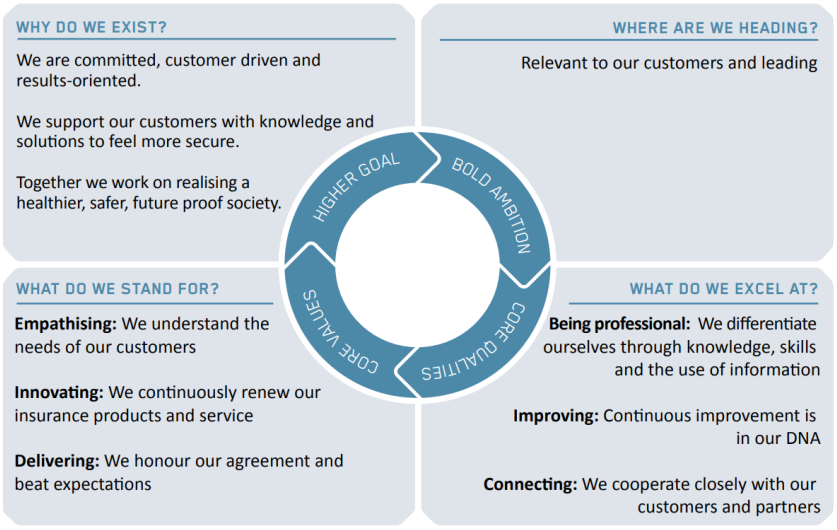


Figure 4.9. The vision of Achmea (*Annual Report 2016*, 2016)

discussion this with employees, they find it hard to identify with the bold aim. What does it mean to be customer relevant? What does it mean to be leading? It is hard to image when this state is achieve and therefore hard to pursue.

A reason to take action and a sense of purpose are important for people to have guidance to make decisions. Which decision will or will not contributed to the goal? Not having a sense of direction results in employees having different ideas about what the end goal innovation is and how to reach it (Tushman, Smith, & Binns, 2011). I will argue it contributes to the scattered and unstructured nature of the innovation process at Achmea. When confronting employees with this statement, all most all of them agree. The internal report on innovation supports the same conclusion and states that (1) innovation teams are working in their own bubbles, (2) the strategic themes for innovation are too broad to use as guidance and (3) central governance is not compensable (*Dillema's strategische innovatie*, 2017). These issues arguably all point to a single problem; not having a vision what we want for the future. 'Where do we want to go?'

The importance of having a reason for doing things has been widely acknowledge in the field of management. Simon Sinek talks about the 'golden circle' (Sinek, 2011) and tells leaders: *"People don't buy what you do, but why you do it!"* (Sinek, 2010). Management Guru Peter Drucker once famously said: "Culture eats strategy for breakfast" (no actual citation is available, but the mantra has sticked around for years). A more recent and powerfull example why an end goal is so important to have, is Microsoft. The example below comes from Sayta Nadellea. The CEO of Microsoft tells about the journey of Microsoft and it's transformation of last years in his new book 'Hit Refresh'. The moment in this paragraph below happens during the global sales conference. Satya present first results of new mission of Microsoft for the first time to employees.

> *"Feeling my emotions beginning to overcome me, I skipped my last slide and quickly exited the stage. Jill pointed at the doorway to the auditorium, not my private green room, "Watch with them." As a video started presenting not just the year's progress but the expansive, mission-driven opportunity ahead, I slipped back into the auditorium through a side entrance. No one could see me in the darkened auditorium. Every eye was glued to the screen, but I was watching them, gauging the emotion in the room. Everyone was locked in and some were softly wiping away tears. I knew then that we were onto something."* (Nadella, Shaw, Nichols, & Gates, 2017, p. 114).

A clear purpose inspires and unites people, it guides them and it essential for the governance of innovation in a large organisation, such as Achmea.

4.6. Conclusion

Achmea's innovation process is splintered across the company. Individually, all innovation process have results. However, the novelty produced by these separate innovation processes isn't on the level of novelty innovation managers wish for. Innovation is still mostly aimed at improving processes. Creating novelty at Achmea is limited due insufficient tools in both areas; technology innovation and innovation of meaning (division and brands).

Moreover, the innovation processes at Achmea aren't coherent and not aligned with the organisation and each other, which contributes to the lack of novelty in innovation. Criteria for funnels are different and are not always uphold. Innovation projects are not treated separate from portfolio projects and have to fight for resources. Thus, backing of senior managers responsible for portfolio management is important for the innovation to succeed.

Achmea doesn't have a clear goal for the future. And a messy innovation process, leads to frustration, disagreement and gossip among innovation managers and departments. Above all else, Achmea first needs a clear goal for the future. A clear goal inspires and unites people, it guides them. It is essential for the governance of innovation in a large organisation, such as Achmea.


Kinky Boots
WINNER! BEST MUSICAL
GROUNDHOG DAY THE MUSICAL
COME FROM AWAY
Disney
LAMAR
ONE WAY

Chapter 5

Conclusion analysis: Moving to a design direction

Impact of digitalization on the innovation process

Digitalization affects IT management

Impact of design Research

Chapter 5

Conclusion analysis: Moving to a design direction

Digitalization is a phenomenon describing the increasing use of information and communication technologies in our society at large and in our daily lives. They reshape tthe world around us, how we organise our lives, how we interact with friends and family, and how we work and collaborated. Digital technology makes us more connected and more insightful.

Because of digitalization companies, including Achmea, experience increasingly dynamic markets. Many markets already have experienced significant change, such as the logistics and entertainment industry. The financial and insurance market is experiencing that change right now. Start-ups working on 'Insurtech' and 'Fintech' are hot and booming.

Four distinct technologies together drive this digital transformation of our world. (1) Social media technologies, such as platforms and messaging application, facilitate new forms of social interactions. (2) Analytic technologies allow for innovative forms of information processing for better insights and decision making. For example, big data collected with the Internet of Things and analysed by Artificial intelligence. (3) Mobile technologies, such as smartphones and tablets, enable new business scenarios for customers, partners, suppliers, and employees. And (4) Cloud technologies that offer flexible and shareable digital capabilities (e.g., marketplaces, software as a service) to drive business agility.

They affect our lives in two distinct, but inseparable ways. (1) It makes us more connected with one other, things and machines; Digital connectivity. And (2) it makes use more knowledgeable and smarter through the converge of information and the ability to understand it better; Digital convergence.

Companies need to be more attuned to their business context and react faster to changes in this new digital environment. Companies need to be more connected and they also need to understand why these changes are happening in order to compete in the market, to understand the underlining dynamics that drive these big and sudden changes.

5.1. Impact of digitalization on the innovation process

Like many other companies, Achmea react to this change by implementing an Agile way of working. Agile is based on quick and iterative development stages, contrasting tradition plan based waterfall approaches. Agile helps to react fast to the market by quickly launching new products and features. It provides fast feedback from the market in order for them to finetuned their products. It makes their innovation process more connected to world outside the firm. An Agile way of working relies heavily on tools based on digital technologies.

Although this process is fast and has many benefits for the company, current Agile methodologies and tools lack proper support for understanding the deeper dynamics at play. Digitalisation is strongly associated with disruptive and radical innovation. These innovations are radical and disruptive because they address deeper social and cultural dynamics of our lives with technology. This match

between technology and articulated needs of people in products change the playing field of markets significantly. Digital convergence is strongly influencing this process and is helping us to understand fundamental dynamics better.

Agile, including Lean Start-up, is great for the creation and implementation of new products and tools in the market. It works for the second stage of innovation when there is an notion what to build. However, Agile do less in the first stage of innovation. This stage is about understanding the context of people in the future and finding opportunities to create value for customers. This step generates ideas about what to build. It is essential in this step to understand how the world works and might work in the future.

If Achmea wants to thrive in the digital age, it must include practises that makes use of the benefits of digital convergence. This can be done by combining technological research and human-centred design research. Design research has explicitly been focussing on discovering unarticulated needs and the future context of people. An integrated approach focussing on people and combining multiple disciplines (design research) can leverage digital convergence, and better understand deeper social and cultural dynamics of our lives.

5.2. Digitalization affects IT management

Digitalisation also has changed the roles of IT departments of companies, because innovations rely more and more on digital technology. However, management of IT infrastructures is complex and agility is hard to achieve in these large IT infrastructures. People expect to be always online, and for it to be secure, in this connected world. IT departments, therefore have a high responsibility to make sure everything is secure, robust and integer. Agile way of working - fail often, fail fast – is hard to embraces for an IT department. Agile is not well suited for these types of environments.

More and more innovations are digital in nature, therefore other disciplines are increasingly in need of knowledge about these technologies. This changes the role of IT department from a facilitating role to a leading role. Combine this with the push to work Agile, makes the IT departments uneasy. Which has been the case with the IT department of Achmea.

IT professionals state the need to understand how products and services are offered to the customer in the future. This allows them to prepare and plan the future state of the IT infrastructure in order to support these innovations. IT departmentsthus needs to envision future products. But this is not their core focus. They must build this capability or collaboration with the other departments is compomisded.

5.3. Impact of design research

Design research aims to understand and envision how people live their lives in the future and thus envisions new products, see figure 5.1. Implementing design research into a company would then also benefit the management of the IT infrastructure. Companies need to implement an innovation process that facilitates design research and collaboration between departments. It would spread knowledge of digital technologies among different departments , making it easier to manage IT.

Such a process aims to create insights about the future, but it doesn't generate revenue for today. As such, innovation projects with the aim to understand the future context must not be considered as portfolio projects. They don't always need a business case. The company needs to established an structure that is flexible enough that is allows for these kinds of projects to be funded and approved.

Agile, and digital connectivity in general, makes it easier for employees to collaborate and share thoughts and initiate projects. Hierarchical organisation structures don't do well with this new way of working. Companies must be aware not the end up in a massive company-wide brainstorm resulting in a chaos of innovation projects. A strong organisation identity and purpose must be present to inspire and guide employees to innovate for the company.

So, if Achmea wants to survive and thrive in the digital age they must have a strong sense of purpose. They have a dynamic organisational structure that makes use of digital connectivity and foster digital convergence. This can be done with Agile

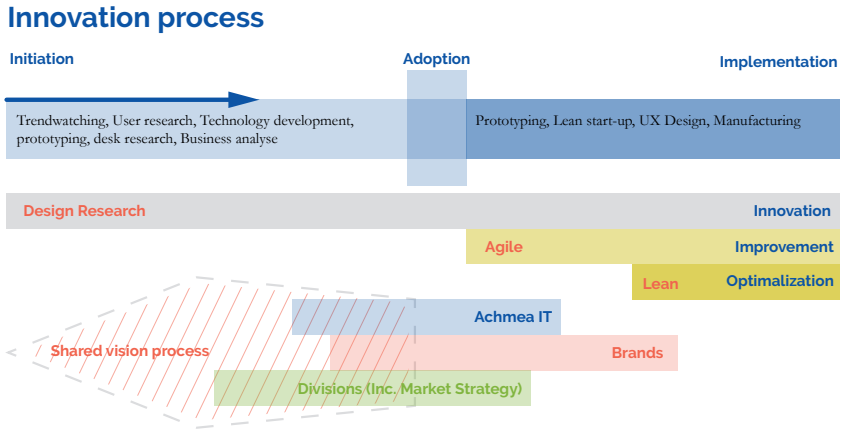


Figure 5.1. The proposed gap it fill in the innovation process of Achmea

practises. But companies must make sure that the fruits of digital convergence, deeper understanding of social and cultural dynamics, is also harvested. Collaboration between disciplines on design research within a companies can have this effects by envisioning future products. It will result in more radical innovations, better products for customers, and better management of IT.

So, the question how Achmea IT can pro-actively in enabling Achmea brands and divisions to innovate with new IT opportunities in an agile way, without compromising Achmea IT's integrity and security.

The answer is to embrace design research and start the process of envisioning the future products with other departments. It will shift Achmea's innovation process more towards radical innovation, figure 5.2. And it will organize the fuzzy front end of design to some extent, see figure 5.1. The initiation phase will be more organised and will give direction to the company-wide brainstorm happening right now within Achmea.

The introduction of collaborative design research for Achmea IT has five major benefits:

- It empowers IT to lead the digital transformation of the company.
- It will help focus innovation projects across Achmea.
- It will enable IT to envision a future state of IT that can meet the demands of the business.
- It will involve and educate other departments of the possibilities of technologies.
- It will uncover future values of customers.

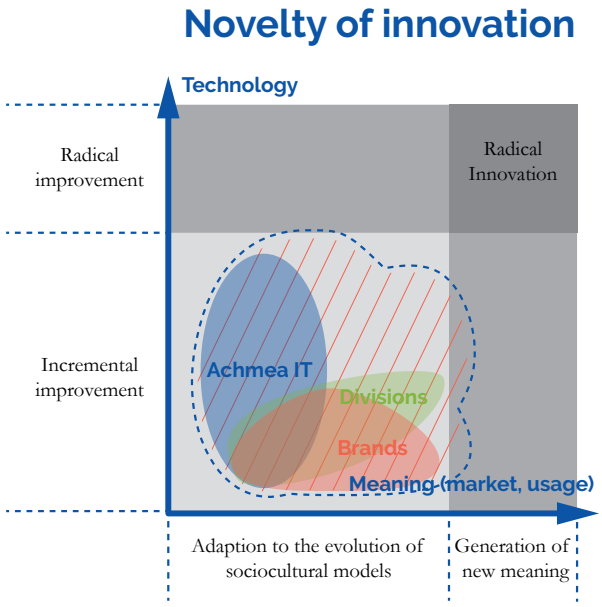


Figure 5.2. Proposed shift of Achmea after implementation of Design research

Chapter 6

The process: Implementation of Design research

Co-creation

Design requirements

Chapter 6

The process: Implementation of design research

The previous part of this report is all about understanding the context of this project and the main challenges that need to be tackled. It explains in depth the issues employees face on a daily basis in trying to innovate. I conclude with the promise that introducing design research to the innovation process of Achmea will help them organise and manage innovation activities.

This part of the report will be more to the point. Implementation of design research can be done in many different ways. In the field of management and innovation and New Product Development (NPD) is extensively written about how innovation can be organised in a company, and how design research practises could fit in. As leading example for implementing design research properly could be turn to prominent companies like Philips, Apple, Bosch, Microsoft, Toyota and Ikea.

In my case I used these sources in a generative manner. I have already did an extensive research on the context of Achmea. I deemed myself knowledgeable about the context. Therefore, I chose to seek out knowledge as I see fit during the design process guided by I own intuition and knowledge, hence the generative approach. But above all, the most important element of this design project is the adoption of my proposed solution. It is not only a personal goal, but also a critical skill of a designer to lead and co-create with participants. As such, I choose to facilitate multiple sessions with the innovation team at Achmea IT, my client, to design a process and complementary tools for them to use.

6.1. Co-creation process

Not everything could be done in a co-creative manner. Therefore, some of the work had to be done by me in parallel. The creation process was mostly defined by the back and forth interaction between my own ideas and helping them to express their own needs, wishes and ideas. The different ideas of all participants, including me, were treated equally. Naturally, some ideas were strong in the areas the participants were more knowledgeable. For me this meant knowledge of new product development, for others this meant knowledgeable about governance, organisation Achmea and IT.

My the process involved a lot of sketching diagrams and creating possible tools, revisiting my acquired insights and scrutinizing ideas myself and others based on my research and background. Concepts evolved overtime through weekly meetings with my company mentor and manager, frequent meetings with the director of strategy and governance IT, a brainstorm and facilitated discussion with eight students and the consultation of experts.

A major intervention was a three day workshop for the team to create a new strategy for innovation at IT. I was responsible for the facilitation of that three-day workshop. The workshop was meant to establish a new vision on the purpose of the team within Achmea, and also some early ideas for a new way of working. Facilitating the process meant I had the opportunity to discuss specific topics more in depth, such as their needs and wants, their ideas and their dreams about the work they do and want to do. Furthermore, the workshop allowed me to pitch ideas and concept to the team and sense if I was on the right track.

During all these meetings, brainstorms, workshops and discussions I used my designed personas and organograms to help facilitate the discussion. And because of the variety of people I had contact with, I could sense if my concept would land in the organisation, if it was usable for the team and if it would make sense in the field of product design and innovation.

A clear example of the benefits in the approach would be the insight that my idea had to little focus on generating insight specific for the IT department. Thus, I revisited my ideas to address more technological trends and developments.

Figure 6.1. Co-creation session with students for the creation of tools

Figure 6.2. Three members of the team helped analyse the research results. Theywere asked to map all innovation and Agile barriers and enablers

Figure 6.3. A discussion about the vision for the team

6.2. Requirements for a new strategy

Based on my research, I drafted an abstract design-space to have some guidance during designing. My solution will be examined in chapter 12 based on these guidelines.

(1) **What:** The strategy that will help Achmea to envision future scenario of product offerings. These visions can be in any from or shape, but have to communicate ideas of products and services utilizing new technologies and exploring new meaning for people.

(2) **How:** The strategy is supported by a process and tools that helps the innovation actors in environment of Achmea through a collaborative process, where knowledge is transferred, translated and transformed.

(3) **Who:** The strategy is especially interesting for the Innovation and Experience centre IT at Achmea IT and therefore they are a prioritized actor in the process.

(4) **Why:** The interest of IT in the strategy lays in the improved understanding of the future IT infrastructure that is needed to support these kind of future product offerings.

(5) **Context:** This strategy helps to secure new insights in existing business processes to leverage the gained insights in the company's decision making process and to align innovation activities with other business activities.

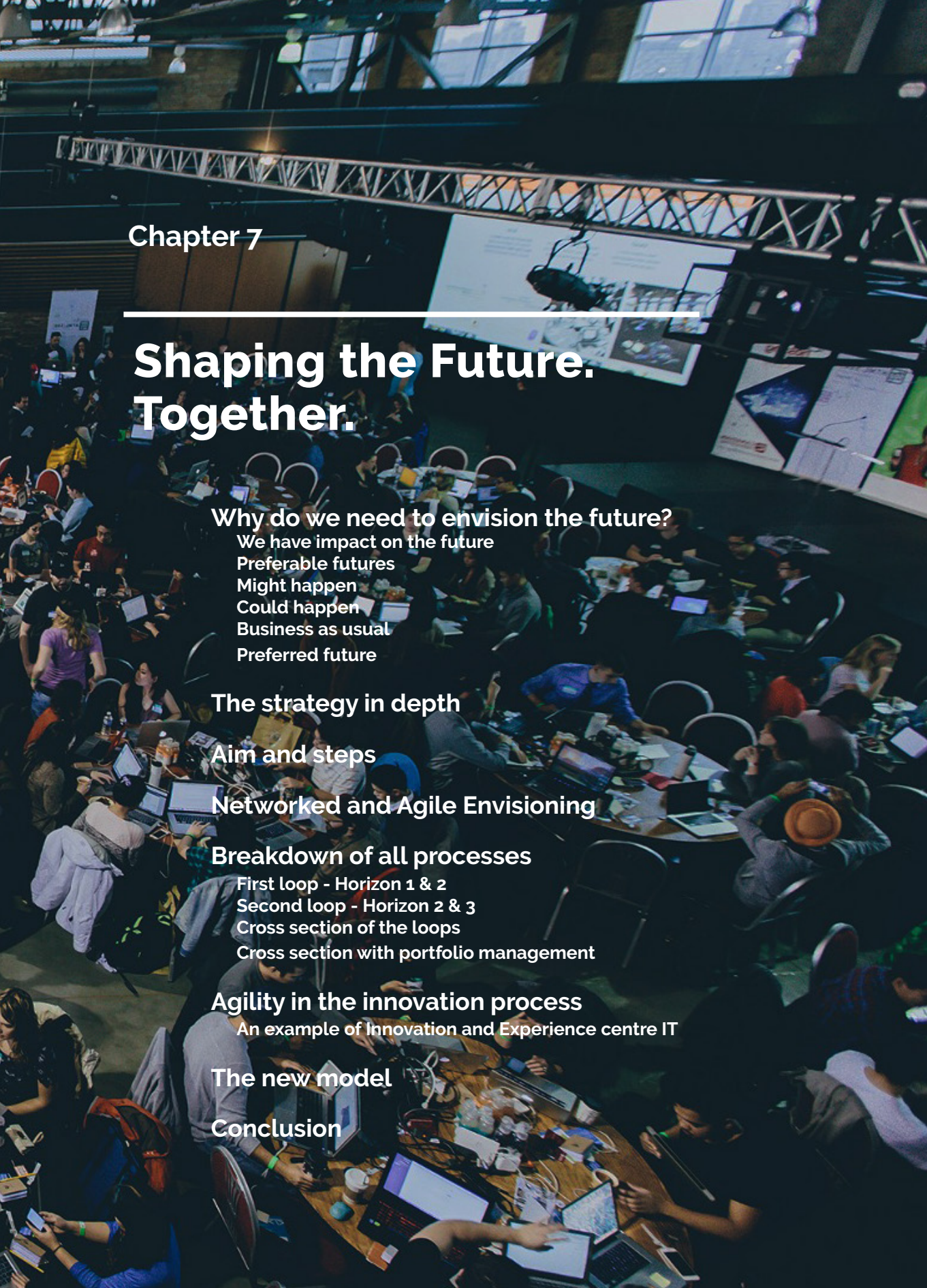
(6) The Strategy ensures more alignment by matching the envisioning process to Agile project management processes within Achmea, in order to infuse the gained insights in existing product development processes.

(7) In return the envisioning process must facilitate open or network innovation - wherein loosely coupled actors (without many dependences) can participate to capture the knowledge of large groups, 'emergence of the system'

(8) In addition, deep user research is possible to integrate the investigated latent needs of people which could become relevant in future context influenced by technology.

(9) Ultimately, this tool helps Achmea foster reflection on what it means to be Achmea and what Achmea wants to offer in the future.

Figure 6.1. Design guidelines



Chapter 7

Shaping the Future. Together.

Chapter 7

Shaping the Future. Together.

This strategy is designed for Achmea to innovate with digital technologies. It empowers employees to come together across Achmea and collect insights about the future to imagine future visions - new interactions between people and products. The new vision guides , inspires and steers innovation at Achmea. Like a school of fish, the employees continuously sense the environment and react as one.

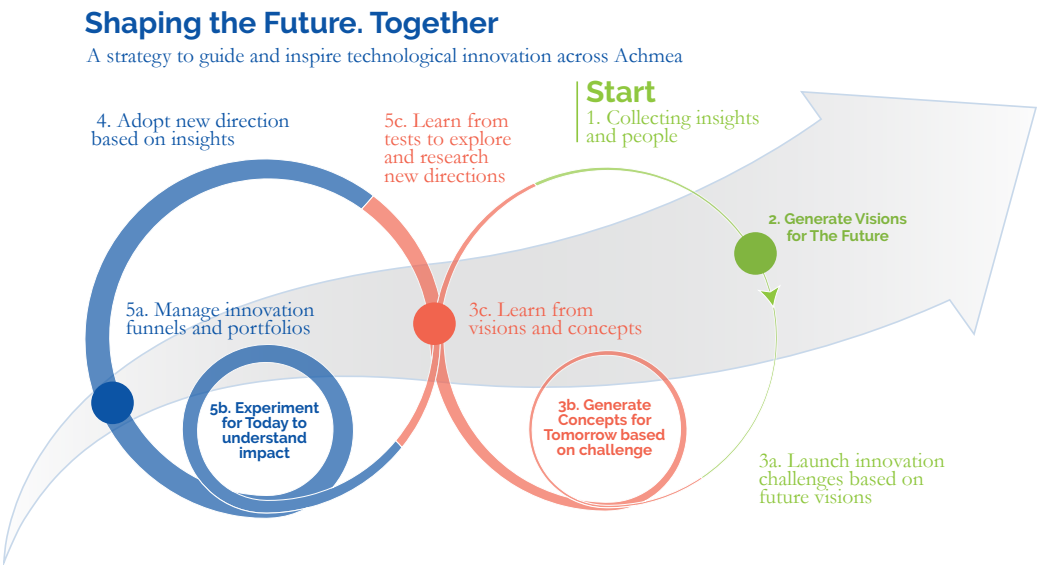


Figure 7.1. Overview of the new strategy

'Shaping The Future. Together' means connecting different innovation paths together to shape a vision of the future and move forward together in open and iterative manner. See figure 7.1. for a abstract overview. Different processes work in tandem to generate knowledge about futures through tests, concepts and visions. This strategy generates knowledge on new value propositions, new business models, new products and services, new processes and IT infrastructure.

Concepts are based on visions, and tests are done to see if concepts are feasible today. Vice versa tests can provide valuable insights of what in the future could be possible. These tests give direction to future research. And research is needed to envision a desirable future impacted by technology, to generate concepts.

We can understand how we can deliver new products and services to our customers in the future by envisioning the future based on the core values of Achmea, insights from employees, experimentation and research. By moving back and forth between different time-frames we can understand how the future impacts innovation today and how technology impacts the future.

By envisioning the future, we can understand what we need to research for the near future and what we need to test and understand today. The strategy allows for existing innovation activities and processes to be loosely coupled at Achmea. The current innovation processes are input and output for each other. Insights gained from one innovation process will guide and direct another.

This innovation strategy is designed for digital innovations, where agility and open networked innovation are crucial. It make use of the judgement of employees to imagine a desirable future for Achmea and its customers. See figure 7.2. for examples of outcomes.

7.1. Why do we need to envision future?

First, we need to establish a shared understanding of what we mean by envisioning. Envisioning is the process of imagining how future scenarios will unfold. The time-frame is set in the future. The study of futures is very broad. People who are occupying themselves with envisioning futures are called futurists. Mastering the study of futures entails mastering the activity of envisioning many potential

Figure 7.2. Outcome of a vision workshop pilot with IT security of Achmea

different futures, rather than just one simple future. Forecasting multiple futures enables better strategic foresight of the corporation. This section below is largely adopted from Voros' 'A Primer on Futures Studies, Foresight and the Use of Scenarios' (2001). His article is a brief summary of the field of futures and what it entails. We are interested in a concept called preferable futures, because Achmea needs directions for innovation to go.

7.1.1. We have impact on the future

Voros mentions three "laws" of the future. The first law states that future is not predetermined, because nature at its most fundamental level is indeterminate at quantum level. For example: light can be modelled as wave and particle. So, no physical process could possibly determine what the next moment will be.

The second law, is about the predictability of futures, the future is not predictable. If nature were to be predetermined, we still need to have tremendous amount of information to make a model and forecast a future. The among of information needed will be unfeasible. Therefore, a slight deviation or missing bit information will already generate numerous potential futures. We are forced to make choices between these potential futures.

The last and most important "law" is about our own ability to affect the outcome of the future by the choices we make. The choices we make, the actions we do or do not take, will have consequences and thus shape the future. We can use this ability to your advantage. We could choose to pivot towards one alternative possible future that has more benefits to us than another. Towards the one we prefer, this is the premise of envisioning future.

7.1.2. Preferable futures

Although the future may be unpredictable, estimations can be made wherever something will unfold one way or another. These estimations are preserved as possible futures or potential alternative futures. These potential alternative futures can be subdivided in four classes, see figure 7.3.

7.1.3. Might happen

The first class of possible future holds everything we can image as result from some knowledge about the future. It may be as far stretched as interstellar travel through 'warp drives' as imaged by the sci-fi show Star Trek. It 'might' happen.

7.1.4. Could happen

The second class is about plausibility. These plausible future 'could' happen. These future are imaginable by our current understanding of the world, opposed to the possible futures were we need understanding about the world we do not have yet and need to discover. These plausible futures are a smaller subset of futures than the possible.

7.1.5. Business as usual/Likely will happen

The third one is about probable future. These potential alternative futures are 'likely' to happen. These futures can be regarded are mere extensions of current trends. They yield futures that resemble the 'business as usual'. These futures come about if not taken any action to pivot away from that future.

7.1.6. Preferred future (want to happen)

The last class and the one that is most interesting are the preferred futures. These futures sit somewhere in between the plausible and probably futures. We 'want' these to happen. The other futures are rather objective and based on information. Preferable futures are about what we want. Thus, they involve value judgement based on emotions. If so, then we need to create new understanding and knowledge to realize this future. These actions pivot towards a preferred future are inspired by our desired to realize that future. Take for example the pilot case with IT security, figure 7.1. The employees working in the IT department were concerned about equality between people who understand technology and those that don't. They wanted to help close the gap between these groups and to protect the less knowledgeable class.

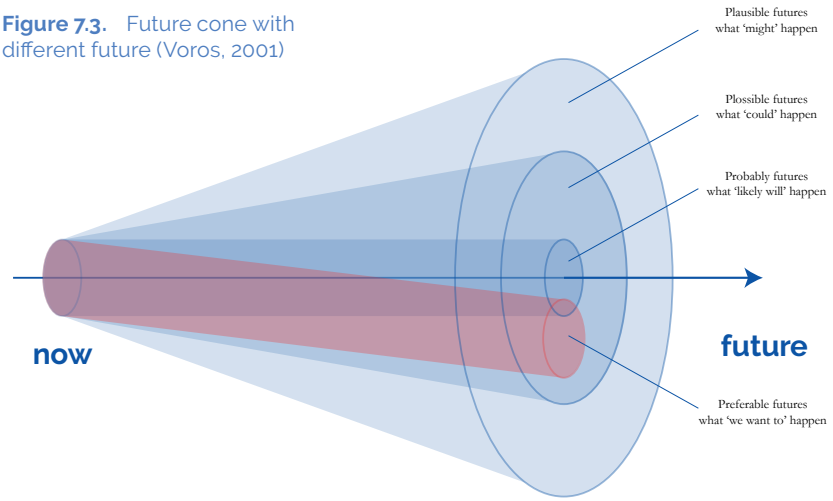


Figure 7.3. Future cone with different future (Voros, 2001)

7.2. The strategy in depth

The Strategy aims to generate desirable futures to inspire and guide technological innovation. This strategy needs a process that enables different tools, methods, deliverables, participants to be coordinated into a coherent manner to generate these visions. In order to come up with a structure for the envisioning process, I revisited literature and material from electives I took mostly rooted in new product development. I enriched this knowledge with desk research in other areas. Based on that literature I found, I devised a basic framework with five steps how envisioning of new product offerings based on technology should unfold within Achmea. I have drawn insights about the process from the following frameworks:

- A framework based on the creativity consultancy sector in Management of Technology and Innovation area (Kembaren, Simatupang, Larso, & Wiyancoko, 2014),
- a framework for product Visioning based on the creation of future concepts in large multinationals (Mejia Sarmiento & Simonse, 2014),
- a maturity model for Organisational future orientation (Rohrbeck, 2010),
- the renowned AIDA-model utilized broadly in Marketing industry (Strong, 1925) and
- a Generic Foresight Process for Future studies (Voros, 2001).

A full description of the steps presented in each framework can be found in Appendix H.

7.3. Aim and steps

The aim of creating future product offerings in this strategy is to engage people in the discussion what the implications of new technologies could be in the future (Mejia Sarmiento & Simonse, 2014). The tool facilitates this aim by engaging many different actors during the process and to discuss the results at senior management level for strategic planning. The process steps should therefore not only deliver a vision, but also engage and trigger people in the process. The steps are the following, see also figure 7.4.:

Researching and Sensing (1 and 5c): The process starts with an incentive or wish to create a future vision. The wish could be better understanding of technology, but can also come from somewhere else, like management or research. The process will be similar either way. This incentive or wish will define your direction, the lens through which you scan the environment. Next, insights about the future are looked for and collected. This is done by employees, customers and partners participating in the process. Information is key during this phase. It can come from anywhere. Ideas, scientific papers, magazines, spouse, etc. In this step, many actors should participate in sharing knowledge.

Future concepting

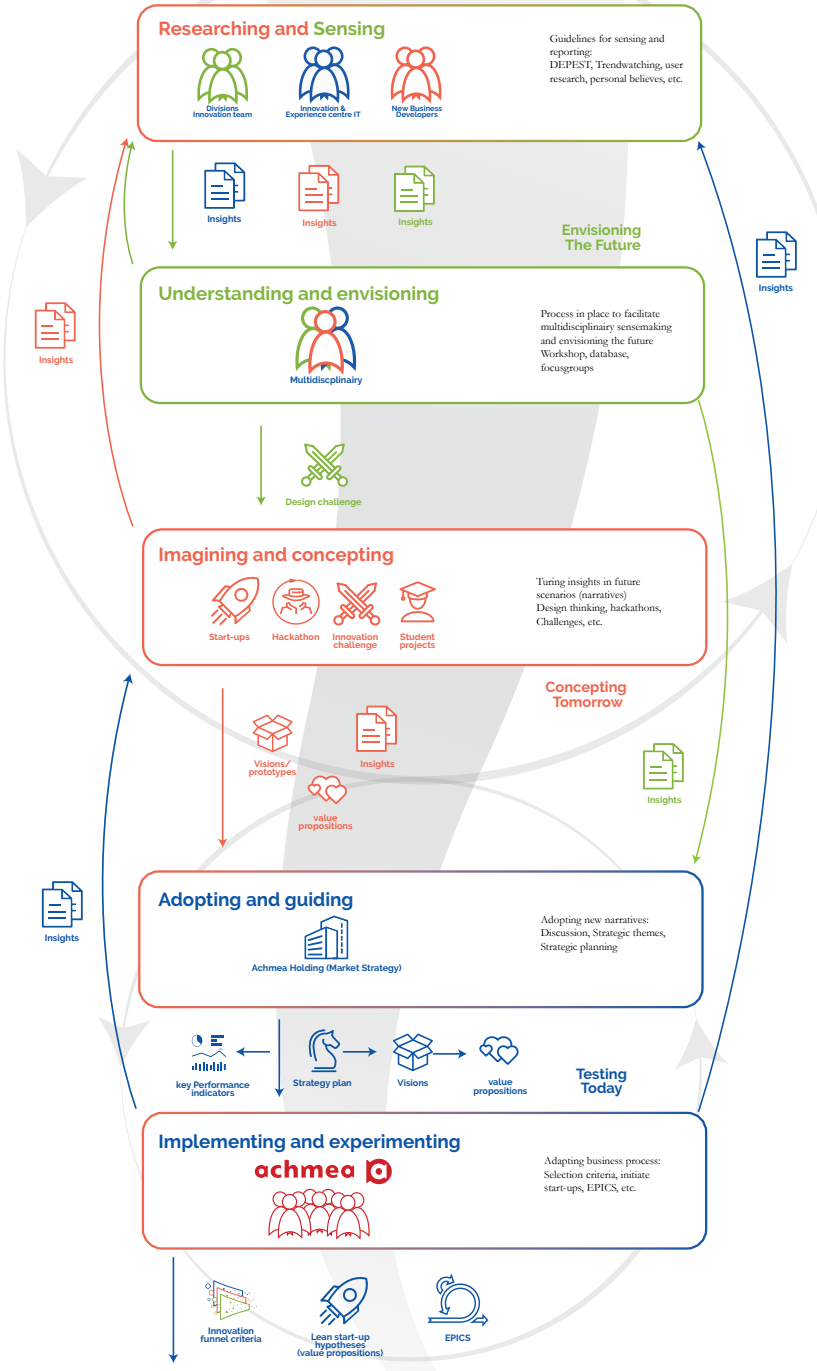


Figure 7.4. An overview of the process and all connected activities

Understanding and envisioning (2): After collecting information, it is important to synthesize all this information into a vision that can be understood by everyone. The narrative itself should provide a direction what your vision will be about, a direction of preferable future. Contrasting to the previous step, synthesis requires intensive engagement of the participants. Large participation of actors is less likely.

I would suggest innovation managers across Achmea take the lead in this process. For Achmea it is important to have senior managers and representatives from all departments participating in this process for proper organisational support for your vision, because Achmea is still hierarchical. I created a workshop for doing this step. A detailed explanation and evaluation of a pilot run can be found in chapter 8.

Imagining and Challenging (3a, 3b and 3c): These visions can act as inspiration source. It is important that these visions are visually strong and are able to communicate its meaning to a broad audience. This could be done by the graphics departments of Achmea, but actually new product development (NPD) is outsourced by Achmea. Achmea lacks these capabilities. But an innovation challenge based on these visions can be organised to leverage NPD capabilities in their own partner network. This will generate concepts and will challenge your vision if it is in the right direction. This process is also managed by innovation managers.

The step allows Achmea to come up and design new product offerings inspired by a preferred future context. The future product offerings are concepts and are meant as boundary objects. These boundary objects can then help explain and enrich the visions found in step 2. But they also give a window in the future in many other areas. For example: these concepts can be based on new technology. This gives Achmea IT insights in what they need to support in the future.

Adopting and guiding (4): This phase is all about interpreting what the new visions and concepts mean for the current situation and strategy of the organisation. The created visions/future product offerings are especially handy in these steps. These boundary objects are useful at higher level to provoke and engage senior managers, but also to give space and room to make up their own minds. This increases acceptance of the narratives. These steps also yields commitment of senior managers to act on the implications of the visions of the future. These steps are with the leadership of the organisation and thus exclude large participation of actors.

Implementing and experimenting (5a and 5b): The final step is securing actions to pivot the organisations towards that new direction. This means shifting focus on innovation funnels and experiments. The current innovation funnels are helped by the visions to test and accept the ideas and concepts. The vision also helps to gain acceptance within the organisation and foster collaboration on innovation projects.

This step naturally includes the complete organisation and its eco-system, which is inseparable from innovation.

Furthermore, the concepts and vision can be input for the innovation funnels. It may happen a concept is that good, it is fast tracked and adopting into the funnel. Which is another reason why innovation manager should be responsible for this new strategy and why it needs to included senior management.

The steps above form a basic structure for a new innovation process complementary to my proposed strategy.

7.4. Networked and Agile Envisioning

Two important criteria for this strategy have been the open-networked approach and the alignment with Agile. Knowing how to future may unfold and having the ability to influence it, gives a huge competitive advantage. As such, pragmatic foresight has been explored extensively in the corporate world, but they mostly have been plan-based approaches. For Achmea, I have chosen two underlying theories that aim to plan towards the future by creating desirable futures and may be executed in an Agile manner. The first 'Three Horizons model' and the second 'Backcasting'.

The first methods is called Backcasting and is the opposite to forecasting. Instead of forecasting the futures Backcasting aims to *"generating a desirable future, and then looking backwards from that future in order to strategize how could be worked towards that future."* (Vergragt & Quist, 2011, p. 747). Backcasting is useful in complex dynamic environments. Its process is aimed at envisioning alternative futures and setting agendas accordingly. In its basic form Backcasting ends with agenda setting at specific points in time (milestones). A backcasting approach is done with a variety of participants affected by the environment of the subject (Robinson, 1990; Vergragt & Quist, 2011). A process and toolset of setting these milestones is written down in chapter 8 and adresses the second step of the strategy Understanding and envisioning".

Backcasting is favourable for Achmea in this new strategy, because Backcasting is aimed at:

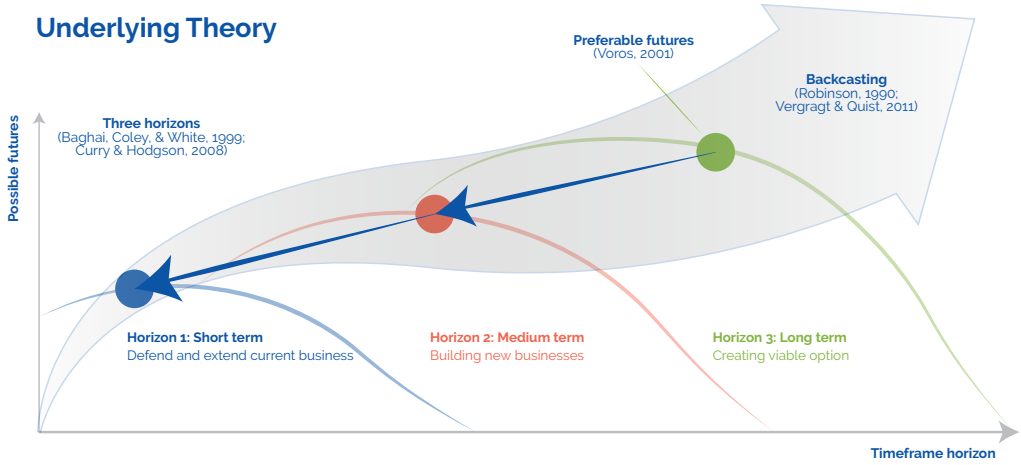
- creating a shared vision of the future, which helps with setting a common direction.
- higher order learning by involvement of the participants; which helps with knowledge transfer between different departments
- turning long-term visions into short-term actions and agendas, which allows to break the work into smaller bits for an Agile approach.
- addressing participants' commitment to results and agendas, helps collaboration between departments (Quist, Wittmayer, & Steenbergen, 2010).

In the case of IT security, different employees from different disciplines came together and created a shared vision they could work towards. And the energy in the groups was high to work on realizing that goal.

Backcasting will help set a common direction for all innovation projects, however common goals towards that direction are also needed. Achmea innovates in many different way for many different time-frames. One method for structuring innovations in time-frames is 'Three horizons' by Robinson (1990). The model sets three horizons in the future to categorize innovations in specific time-frames based on aim of the innovation. The first time-frame or horizon categorises innovations that are meant to defend or extend your current business. The last horizon has innovations – concepts and visions – that are too far-fetched to be feasible, but will help the company to understand and learn about what is possible in the future. The second horizon houses all innovation that are feasible, but need strong commitment of the organisation to realize. These innovation have often new business models.

The aim of the Three horizon model is to explore all horizons and crosslink innovations to strategize the best possible way to move forward (Baghai, Coley, & White, 1999; Curry & Hodgson, 2008). A company can ask itself; What do we have to defend today (horizon 1), so we can build for tomorrow (horizon 2)? And what do we think is possible in the future (horizon 3) that we can build tomorrow (horizon 2)? See figure 7.5.

Figure 7.5. Underlying theory for a future concepting



Different innovation managers within Achmea are already applying this model for their own innovation management. My new strategy takes advantage of this, and uses it as a basis for a new company-wide process. Backcasting complements the Three horizons model by making explicit what the agenda is for each horizon. Backcasting empathizes that achieving the first milestone or 'passing the first horizon' means restarting the process to challenge past assumptions. Backcasting is presented as a sequential and linear approach, but in reality it is an iterative way of moving back and forth between different horizons. Backcasting makes Three horizon model Agile by continuous revisiting and envisioning desirable futures, and by pivoting a path to the future as a result. This model will also help organise innovation projects already running and give insights in why innovators at Achmea feel that innovation aren't novel enough.

7.5. Breakdown of the overall process

My research concludes that Achmea lacks a proper initiation phase in the innovation process and the innovation managers fail to leverage their collective knowledge about the changing business context. I want to tackle this by dividing innovation process in two loops that connect all three innovation time-frames/ horizons, see figure 7.6. It is important to understand that innovation projects in these three time-frames are not sequential. They can be executed in parallel at the same time and they are deeply connected with one other, see figure 7.7.

7.5.1. First loop - Horizon 1 & 2

The first loop is meant to connect the first horizon with the second. This loop is about discovering improvements for existing products, process and services, see figure 7.8. This figure has been applied to Achmea IT. Their first loop is about the improvement of the IT infrastructure. For other departments this could be, for example, improving existing products or the omnichannel experience. The first loop is about experimenting with innovation projects that could have direct benefits for the current business and to understand how the business of tomorrow must be built. These experiments are part of al larger innovation process. Learning from these experiments can help direct technology scouting and vice versa the technology scouting can fuel the experiments.

Many of these activities for innovations are already existing with the organisation. For example, the innovation and experience centre IT are already making a trend report. This could be the result of the first loop. This team manages also the innovation funnel. The smaller inner loop can be a funnel for example. The funnel is used manage experiments to learn about new technologies.

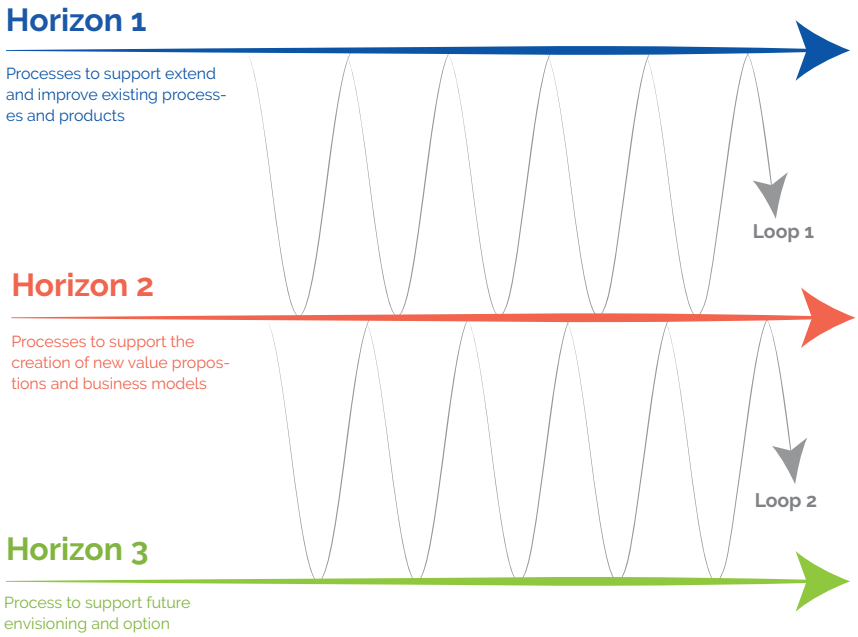


Figure 7.6. Model for connection horizon based on Backcasting

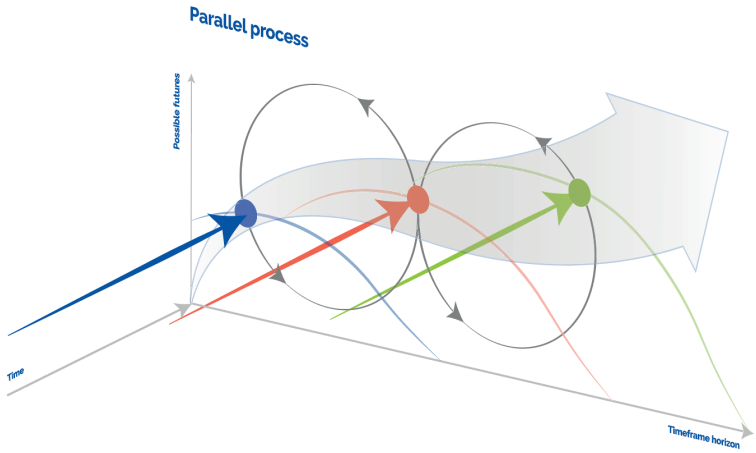


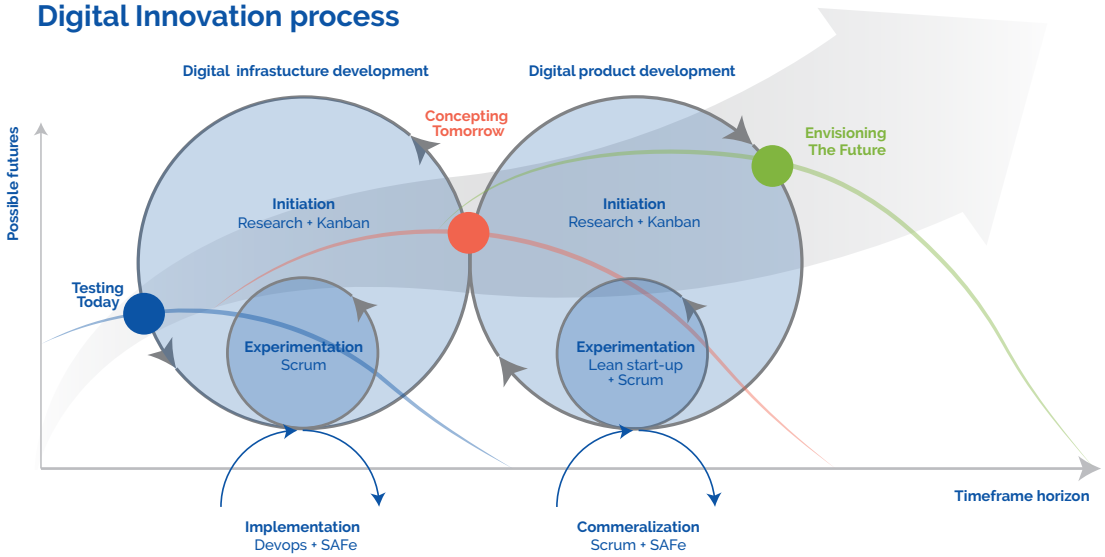
Figure 7.7. The activities in each of these horizon are executed in parallel and feed of each other

7.5.2. Second loop - Horizon 2 & 3

The second loop is about translating all insights gained from the first loop into visions for the future. This loop is meant to connect the second and third horizon. By doing this Achmea can learn what the possibilities are for the future. Currently, Achmea has almost no process in place to envision futures. This is also the gap that I want to address. A process and toolset for moving from horizon 2 to 3 is written down in chapter 8 and addresses the second step of the strategy.

Visions can be used to imagine what future products offerings – value propositions – Achmea can offer in the future. This means making concepts of new products and services. Achmea doesn't have capabilities to generate concepts. New product development is outsourced. Achmea could utilize design challenges, hackathons, Start-up channellings and student assignments to come up with concepts of future product offerings. The concepts of the future can then used to asses if Achmea is looking in the right direction. Concept testing generates insights for both the first and second loop. This concept generation is also used to guide the development of the existing business – the first loop. For example: minimal viable products from hackathons provide insights in which technologies are likely to be used in the future. Achmea IT could use these insights to direct their own innovation funnel and better prepare their IT infrastructure to support these future products. Or these new insight could improve existing customer journeys and improve customer experience.

Figure 7.8. Simple overview of the type of processes supporting this strategy



7.5.3. Cross section of the loops

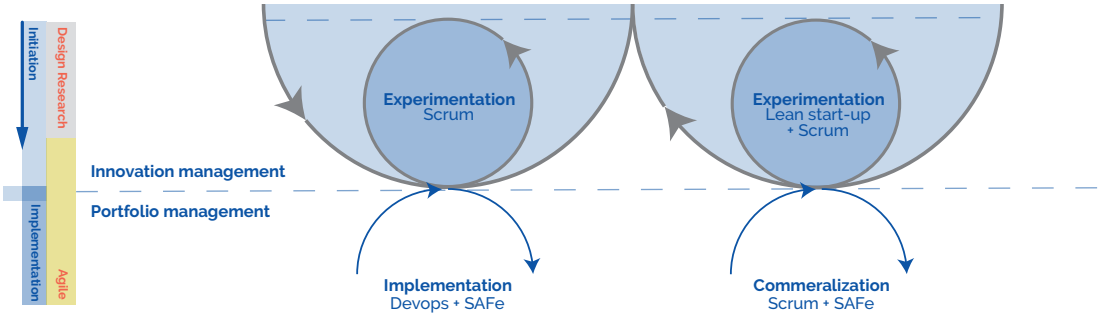
Both loops generate insight in their own context. By leveraging more practical insights of loop one to direct loop two will result in better understanding of the future. Vice versa: Insights of loop two will direct loop one in what is meaningful to explore. The two loops and their inner loops are loosely coupled. They can function independent, but are more powerful if used together.

7.5.4. Cross section with portfolio management

In my research I conclude design research is needed, because Agile will not address the complete process of innovation. The bigger loops will use research in general as an approach. Design research is especially used to envision futures for Achmea. Achmea is implementing an Agile way of working company-wide. Therefore, my proposed innovation process must match the Agile way of working for proper alignment between different business processes.

Furthermore, Innovation projects are now regarded as portfolio projects. Successful innovation projects ultimately end up in portfolio management. Fortunately, Achmea is implementing Scaled Agile Framework (SAFe) as basic structure for its organisation to work Agile. SAFe tackles also portfolio management by using lean manufacturing practises, like Kanban. See figure 7.9. Therefore, I propose to manage innovation processes with Kanban. Where Agile is rigid in applying quick iteration, Kanban is low level on how work should be executed. Kanban manages only the workflow of processes and therefore is suitable for Innovation process. By using Kanban during innovation projects in loop 1 and 2 and the overall project will be running in the same pace as SAFe, and thus matching the portfolio management of Achmea.

Figure 7.9. Application of design research and Agile methods



7.6. Agility in the innovation process

Matching an Agile manner of working is crucial for implementing this strategy successfully. Therefore, most activities make use of Agile approaches and existing processes within Achmea. Such as innovation funnels, start-up boot camps and hackathons. The implication of the strategy only requires more attention and recourse to align processes, but don't require complete new teams and departments.

Thus, the new innovation process matches an Agile organisation by implementing loosely coupled innovation loops. Two separate loops applying Kanban for the initation phases of Achmea. The first loop is for generating insights how to build the next business. The second loop is for generating insights what to build and sets direction for innovation activities. Both inner loops are meant to experiment and test assumptions. The outcome of these experiments fuel the outer loops and can potentially fuel the portfolios of Achmea.

The process matches Agile processes, existing decision making processes and allows for open networked innovation inside and outside Achmea. Implementing this structure and flexible innovation strategy will help the transition towards a digital insurer, by align existing innovation processes, transfer of knowledge and guidance through visions.

These five steps will help Achmea IT to envision the future state of their IT infrastructure, through a process that helps innovate the brands with digital technology. The steps are a constellation of approaches taken from multiple field; such as marketing, communication, new product development, software development and innovation management.

7.6.1. An example for Innovation and Experience Centre IT

For better understanding of the model and to validate if employees at Achmea understand the process, I applied the model to my clients context. Therefore, we first need to understand how they work today.

The team doesn't have a well-documented vision how to innovate, except for a well-documented process. They grow from a model-office department – model-offices test new applications before integration into the main infrastructure – into the innovation team they are now today (van der Weijden & Wissing, 2017). They have an innovation funnel and budget to experiment and test ideas that generate insights how to develop the Shared IT services. These ideas come from all sources. See persona, appendix A for more information.

The team is responsible for the management of innovation; '*the process is aimed at spotting and exploring digital technologies relevant for Achmea, thus contributing to a better service-offering and transition towards a digital insurer. It also manages selection of ideas and ultimately securing projects in the organization.*'

The team members recognised that they are lacking an overview of all the activities. Therefore, we first mapped all the activities and output of the team on a spectrum, see figure 7.10. The blue ribbon represent the direct working environment of the innovation team. The area above the ribbon represent the business context and

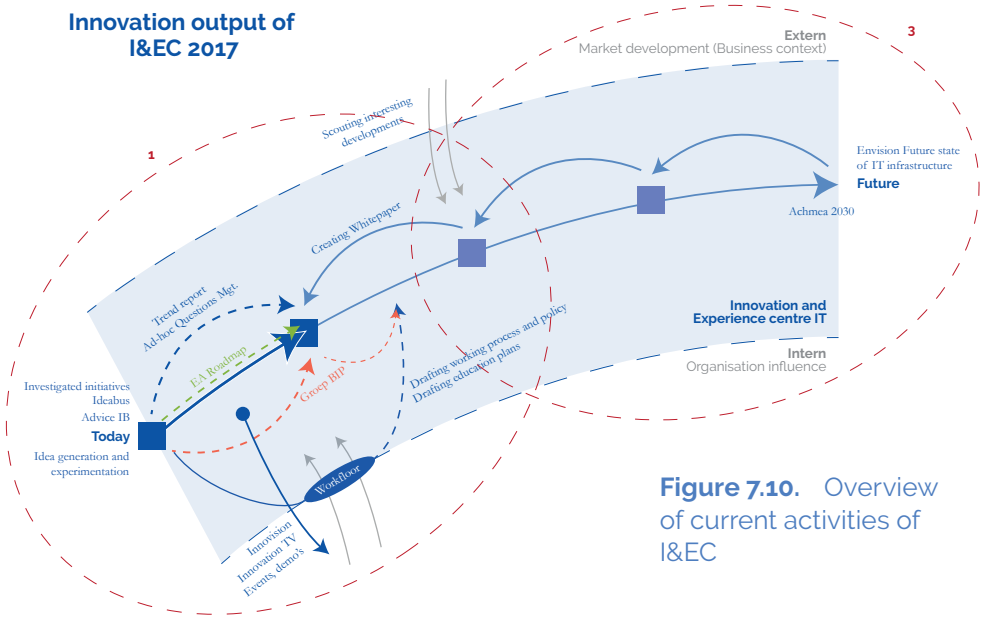


Figure 7.10. Overview of current activities of I&EC

below the organisation. The large arrow represent an abstraction of the development path of the IT infrastructure.

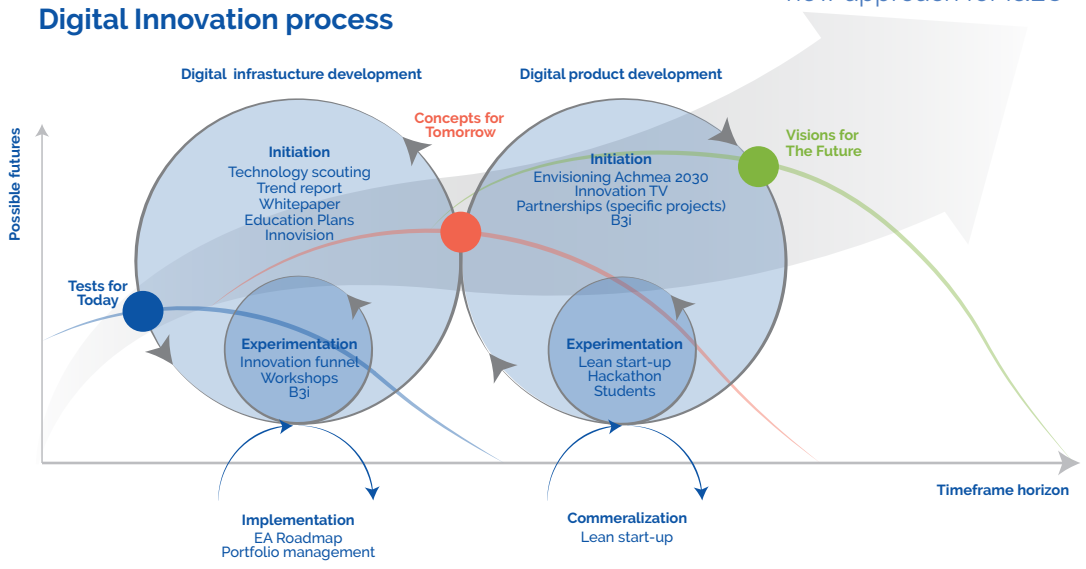
The workshop allowed them to map how their work to help Achmea IT image a future state of the IT infrastructure. Currently, they only image how it will develop in the near future. But they have the need to envision a more distant state of the infrastructure in order to have more time to discover and plan how the next Shared IT service must be built.

Figure 7.10., The first red circle represent the activities that they are doing right now. However activities further into the future are hardly done, because projects and activities for the near future are being prioritized. This is, however, not their wish. They wish to occupy themselves more with activities that give insights into the 'far' future, red circle 2.

7.7. The new model

If 'Shaping The Future. Together' is implemented, the overall process would for I&EC would some what like in figure 7.11. Most activities of the first red circle are captured by the first loop. The team has little focus on the second loop. Some of the current activities can be used to address the need to understand the future. For example; B3i is a consortium of insurers in Europa that tries to understand the application of Blockchain. And 'Innovation TV' can be a channel to discus the future of Achmea. But none of these resources are explicitly designed and used to understanding to future of Achmea. In the next section I will introduce a process and toolset that can help them create future visions.

Figure 7.11. Possible new approach for I&EC



7.8. Conclusion

This chapter introduces the new strategy for Achmea. The strategy generated visions about the future to inspire and guide other innovation activities across Achmea. These visions are created with employees that have insights about the future. This process is meant to complement existing activities already present at Achmea and structure them in a coherent manner. The proposed process integrates with existing processes such as portfolio management and strategic planning and does so in an Agile way.

This strategy leverages the unique characteristics of digital technology. It makes employees more connected during the process and convergence different sources of knowledge to gain a deeper understanding of the dynamic business environment. Shaping the future. Together helps Achmea to find a path to become a digital insurer.


MILANO REPUBBLICA

Chapter 8

An envisioning workshop for Achmea

Theory: Innovation of Meaning by Roberto Verganti

Context factors

Step by step: the process
- 1 Preparation, choose topic
- 2 Sensitizing
- 3 Transfer to factor cards
- 4 Clustering
- 5 Interaction visions
- 6 Reporting results

Design, Pilot and Discussion
- Design of tool
- Pilot set up
- Discussion
- Overall conclusion
- Recommondations

Chapter 8

An envisioning workshop for Achmea

This chapter is briefly outlines the workshop and tools I created for the envisioning process in the second loop. The process is meant to bridge the gap between the second and the third horizon, and is about creating visions of the future based on the research and experiments of horizons 1 and 2. This part of the process makes people dream up desirable futures. In this stage the judgement of an individual is highly important. Visions are an imagination of the future and preferably these are pleasant and profitable.

8.1. Theory: Innovation of Meaning by Roberto Verganti

The basic premise of Innovation of Meaning is inside-out innovation. That is, innovation that start within individuals, instead of outside-in innovation, which starts with research of user needs. Most innovations are created by creative problem solving, offering people novel solutions to address their problems without changing the meaning of the product. The innovation process changes the *"how things are done"*. Innovation of Meaning changes the *"why things are done"*. It is about transcending the problem at hand and redefining the context that created that problem (Roberto Verganti, 2017).

> **Example:** Nest created a smart thermostat. Not because the inventors wanted to give users better control over the temperature of the house, but because they wanted to give them a comfortable house. They wanted the thermostat to take care of that. The problem changed from control over the temperature, to having a comfortable house. Honeywell, a large thermostat manufacturer, had the same technology to design a smart thermostat, but was stuck in the current meaning of the product. They asked users how they would like to control the temperature in their house. This will not result in any answer towards having a comfortable house and them having no control at all.

Innovation of Meaning is a process that is helped by criticism and judgement rather than broad thinking and heavy ideation, see figure 8.1. It is about envisioning preferable futures and scrutinizing these visions with each other—a process of deep grinding and honing the value that resides in the raw vision. It is about addressing deep core values and drivers in a new manner. Nest addressed the need for safety and comfort of people in an approach superior to Honeywell's. They addressed unarticulated and/or latent needs of people.

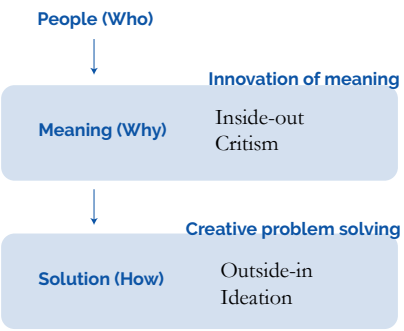


Figure 8.1 Difference between IoM and CPS , adapted from Verganti (2017)

Different than most creative approaches used by many user-centred design practices—including most Agile practices—Innovation of Meaning uses criticism instead of generating many solutions while deferring judgment, see figure 8.2.

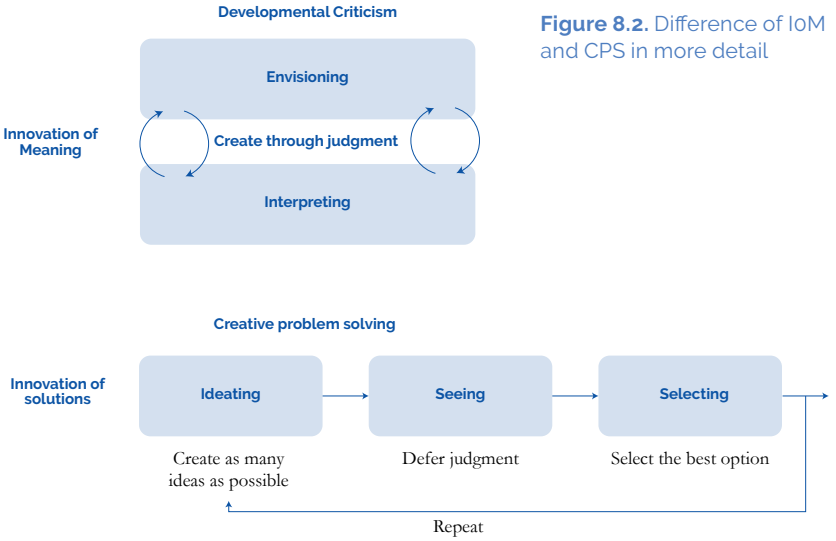


Figure 8.2. Difference of IoM and CPS in more detail

Creative problem solving is aimed at improving the product experience and is competing on performance against other products. Developmental Criticism is aimed at creating new meaning and is competing on value e.g. comfortable house vs. control over temperature (Roberto Verganti, 2017).

The differences of these kinds of innovations is beautifully addressed in the book 'Overcrowded: 'Designing Meaningful Products in a World Awash with Ideas' by Roberto Verganti (2017). He also outlines an approach for achieving Innovation of Meaning. It starts with individuals having radical views on the status quo. They need to be 'flushed out' by the organisation, and are then pinned down against each other in a sequential process of pairing radical circles of four. Concludingly, they are exposed to a controlled environment to scrutinize the idea with a diverse audience. If a new value proposition (meaning; the new why; preferable future) is established, then the next step of 'innovation of solution' can start, to come up with a solution (how) that addresses this new meaning.

However, this process is banking on individuals and a controlled process, whereas we have established in chapter 4 that the digital innovation process is hard to control. Furthermore, its process is excluding other actors to participate easily. Leveraging digital technology for the benefit of digital innovation is thus limited. Open innovation and network-based innovation are not sufficiently addressed by the proposed process of Prof. Roberto Verganti. Therefore, I needed to search for alternatives approaches for inside-out innovation. Inside-out innovation can be

done in four different ways. I found two approaches, that have a match with two aspects of inside-out innovation: (1) Vision in Product Design (Hekkert & Dijk, 2011), where designers stretch from existing meanings to new meanings; and (2) Contextmapping (Visser, Stappers, van der Lugt, & Sanders, 2005), where users stretch between solutions and meanings.

The combination of these three methods will be the basis for this toolset. In short: The Innovation of Meaning approach is a starting point and allowed me to explain the difference between regular human-centred design and Innovation of Meaning, which we need to create visions. Vision in Product Design (ViP) gave me specific elements and a process to draw out the judgement and insights of people about the future. However, this process is meant for professional designers. They are trained to create new ideas by judging data and insights. It's a process that doesn't come naturally to employees at Achmea if they aren't trained in doing so. Therefore, I structured the elements and process of ViP into a workshop with a facilitator based on the Contextmapping practices. This approach eases people into a state of mind where they can express their values and beliefs to a generative approach – by making and designing artefacts. Thus, the reason for this approach originates in Innovation of meaning, steps to collect and prepare data for making visions come from ViP and the overall process is based on Contextmapping. A full explanation of the underlaying theory can be found in appendix I .

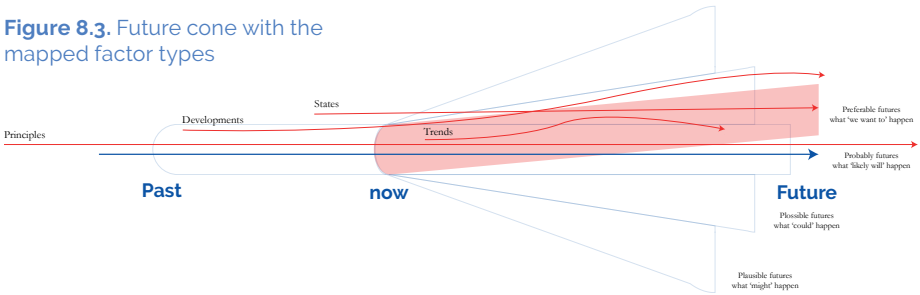
8.2. Context factors

The aim of the tool set is to create multiple future goals based on an overall vision. The aim is to facilitate the creation of potential milestones in line with the aims of Backcasting (Quist et al., 2010). In other words, the tool set is aimed at creating multiple milestones in different horizons.

The first step is to collect insights of the future. For creating futures we need data that tells us something about that future. In order to do so, we turn to the Vision in Product design method by Hekkert & Dijk (2012). This method explains the use of context factors to envision a future context. With the use of context factors a vision can be synthesised that acts as a framework or foundation about how the future may unfold.

Factors are conditions or patterns in the world as observed by people. They can be observations, thoughts, theories, laws, considerations and beliefs or opinions. These context factors are divided in different time frames (types), how they affect society in scales (levels) and can originate from any source (fields), as long people can generally agree that it appears to be true (Hekkert & Dijk, 2011), see figure 8.3.

Figure 8.3. Future cone with the mapped factor types

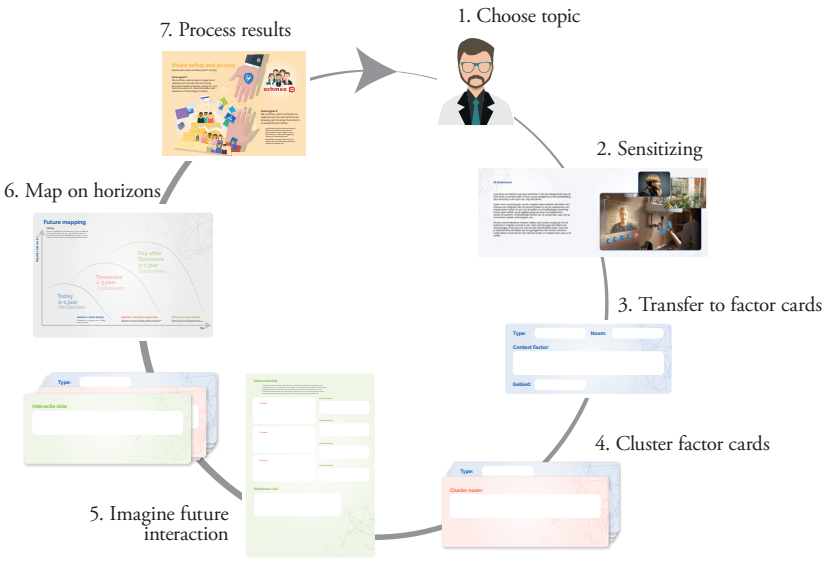


These context factors are bits and pieces that give a sneak peek on probable and plausible futures, which allows us the envision a future we would like to see happen. The different dimensions of context factors are helpful, because they can help facilitate discussion. Some factors may be more relevant than others dependent on the explored future. Furthermore, these dimensions help determine whether some types, fields or levels are too dominantly present during collection and whether others are absent. The participants can then supplement the missing factors and create a coherent story about the future.

8.3. Step by step, the process

The aim of the workshop is to make preferable futures. The workshop is facilitated and prepared by an innovation manager with the necessary skills in creative facilitation. The next section will give you a step by step walkthrough of the process, guided by an example from the pilot I perfomed to test the workshop. All the tools can be found in appendix J. A quick overview can be seen in figure 8.4.

Figure 8.4. The process in short



8.3.1. 1 Preparation, Choose topic

A decision has to made about the topic that will be addressed in the workshop. The incentive for a specific topic can come from anywhere. Research insights, management or just a notion. Then the facilitator plans the workshop with suitable individuals. These can be crucial decision makers, thought leaders or creative people. It is crucial that employees of all departments are collaborating, because we want to create visions based on many insights of different disciplines. These visions need to over-arch everyone at the company. With this in mind, it would be wise to also involve senior managers. The preferred group-size is 6 to 8 (Verganti, 2017).

The workshop tries to evoke developmental criticism. Therefore the workshop preferably lasts a day. The facilitator also prepares sensitizing material. In my case I made a booklet, because it allowed for easy prototyping. But it can be anything, for example: a daily Whatsapp message to the participants with assignments.

8.3.2. 2 Sensitizing

The sensitizing step (booklet) is meant to ease people into the topic, see figure 8.5. To let them reflect for themselves how they deal with certain topics in their daily lives. The booklet asks them to do daily assignments for about a week before the workshop. The assignments let them dig into the past to uncover elements that seem irrelevant at first sight, but are fundamental in how we behave or think about the world. Besides these assignments, the book also asked the participants to collect context factors based on the day's assignment and daily work/life experiences.

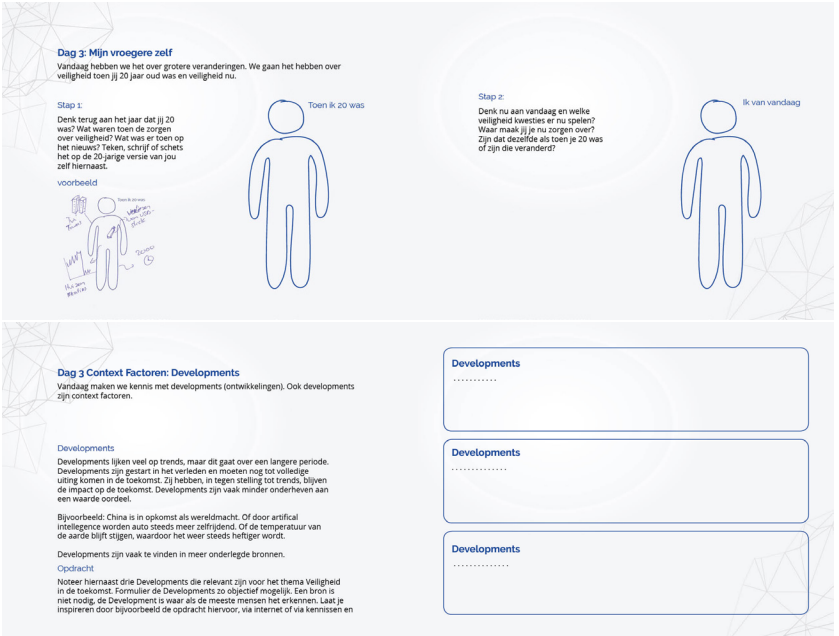


Figure 8.5. Four pages of the booklet

8.3.3. 3 Transfer to factor cards

The context factor cards are meant as guidance during the second step of the process. But also to help them in making clusters that house a variety of different factors. This step starts with dividing the participants in pairs of two. They discuss the booklet and the context factors they have collected with each other. The aim is to discuss and scrutinize the context factors. If they agree, they transfer the context factor onto a card.

> **Three examples of cards:** (1) The fact that you can work well / quickly (mobile) with something does not mean that you understand how it works (State, Technological) (2) The world is becoming 'more complex' through digital technology (Development, Society) and (3) Everything is vulnerable (State, Technological)

Figure 8.6. The cards used for the factors

8.3.4. 4 Clustering

In the third step the participants come back together and spread all the context factors on the table. Time is given to read through the factors of the other duos and ask for clarification. Then the participants are asked to cluster the context factors based on interesting combinations of topics, narratives or tensions between factors (Hekkert & Dijk, 2011). These factors are put into an envelop and closed with a paper clip. Finally, a name is given to the cluster describing the meaning of all the factors within the cluster. The name is preferably a small phrase to make the cluster more explicit and imaginable.

Figure 8.6. The card used to cluster and hold together the context factors

For example: The factor cards of the previous step were clustered in 'gaps of technological classes'. The cluster refers to the gap between people who understand specific technologies and therefore have a significant advantage.

Figure 8.7. Photos of the workshop

8.3.5. 5 Interaction visions

The fifth step is a repetition of the third, but with a different mindset. They have to choose three interesting clusters to use as a basis to envision a future interaction between Achmea and the customer. In other words, they must envision what Achmea can deliver as value in the future, based on the context factors. A small brainstorm is performed to generate ideas. The final future interaction is written down on envelopes in the same manner as the previous step.

> **For example:** *"We, Achmea, want people to experience stability and security. We can do that, because Achmea prepares society for and fuels discussion on social disruption and division of technological classes."*

Figure 8.8. The vision cards for second clustering

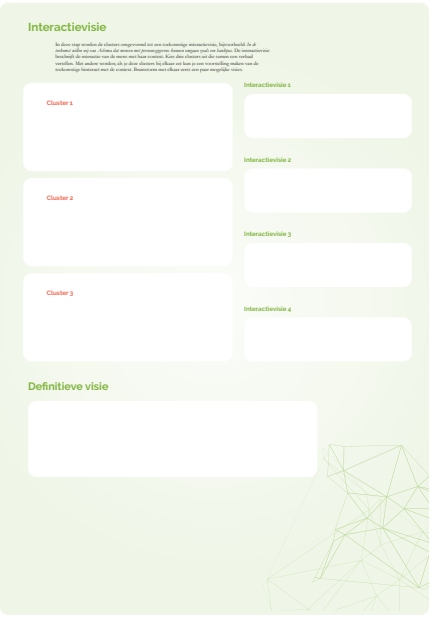


Figure 8.9. The template to make the visions easier

8.3.6. 6 Future mapping

The last step is to map the future interaction in the different horizons. They have to assess whether it's possible to realize something in a given time frame. This also concludes the workshop.

8.3.7. 7 Reporting results

The last step is for the facilitator. He/she has to collect all the materials and translate these into rich communication materials. The results can be used in a variety of ways: input for innovation challenges, to illustrate trends, or for discussion on the strategic direction. The workshop itself can be used to disrupt the day to day work flow and stimulate participants to reflect. An example of the results can be found at the beginning of the previous chapter.

Figure 8.10. The future map and results of the pilot

8.4. Design, Pilot and Discussion

In order to validate my workshop design, and to help Achmea in jumping from from horizon 2 to horizon 3, I did a pilot. The pilot is meant to answer four main questions:

1. Is the overall workshop suitable in aim, level of difficulty and process?
2. How well are the participants able to understand the different context factors, and is it necessary to understand the concept?
3. Do they see value in this workshop in light of innovation?
4. Are there signs of Innovation of Meaning to be observed?

8.4.1. Design of Tools

The tools (cards, booklet and posters) are made of paper. This allowed me to quickly iterate and test the tools. The booklet was meant to test the assignments and to test if they could understand the context factors and the theory behind it. Each day the participants had to do an assignment that had a relation with a type of context factors. The assignment is immediately followed up by an explanation of one type of context factor and a question to write down three context factors in that type based on the assignment of the day. In total, four days were used to introduce each context factor type. On fifth day, the booklet asked to search for factors in their daily life.

The context factors-, clusters- and interaction vision cards were made of paper as well. All the material had a readable explanation on the back. Participants could then quietly read the instruction if they felt this was needed. The clusters and interaction visions were designed like foldable envelopes to hold together the context factors. This had three functions: (1) holding together the cards; (2) allowing participants to go back and read the underlying factors of a cluster; and (3) giving the participants a sense that the clusters and interaction vision had some weight to it. These little packages could house up to 20 context factors, so the interaction vision was not just a piece of paper, but more then that.

I also made two posters. The first was to help them in making interaction visions out of clusters by visually placing the three chosen clusters together and enabling to make associations with them. The second was the future mapping poster, which had the goal to physically place the interaction visions on the map and imagine a path towards that future.

8.4.2. Pilot set-up

The pilot is designed with a focus on quick validation. Therefore, a preliminary test was done with Civil Engineering students—because they aren't professional designers—to understand how difficult the tasks are and how much time is needed for each step. Among many small changes, one change was crucial. A small brainstorm was added to go from clusters to interaction visions, because the students were struggling to make that step. The brainstorm allowed for some creativity and freer interpretations of the clusters.

The pilot itself was done with employees of the IT security department. An opportunity presented itself and I made the choice to run the pilot with them. The pilot only included employees from this department and one innovation manager. Unfortunately, I wasn't able diversify the group. But the department itself has a diverse group of employees with different disciplines, because they operate as

an overarching department. In the end, I had four participants. The fifth had to cancel on the same day.

The second limitation of the pilot is the time span. Due to limited resources in the department, they were only able to free their schedule for half a day. However, the group size was small, which meant the process should go faster due to less discussion and easier agreement.

The pilot was recorded with audio and video. After the pilot I asked the participants the reflect on workshop and give feedback on their experience of the workshop. At the end I presented how this workshop would fit within the organisation, and what could be done with the results. And finally, I asked them if they see value in this approach.

8.4.3. Discussion

I will address this question shortly.

1. Is the overall workshop suitable in aim, level of difficulty and process?
The workshop in general is experienced as positive and enjoyable. Many of the participants were deeply involved in discussions and wanted to go on. Breaks inbetween were short and in the feedback sessions some participants commented that the session was too short. However, due to time pressure we were unable to generate enough interaction visions. This was also caused by having only four participants and therefore, having less context factor cards.

> **Participant 4***: "I found it a nice exercise"*

The aim of the workshop was clear from the start and the participants were surprised by the end goal. Participants found it easy to participate during the workshop.

> **Participant 3:** *"What I find valuable, is the way in which we have come here. There is still a certain structure in facilitating the people in the discussion and the transformation from complete fuzziness and separate elements, to a way that makes your vision."*

> **Participant 4:** *"I still felt the pressure of time and that is unfortunate. Because I think that if we had more time, the discussions and the exchange of ideas and thoughts... Because I think what C**** sketched (more innovative ideas), we then could fill in steps inbetween. And then you'll have more concrete things that we can set in motion directly."*

Although the booklet was valued for the preparation it provides, they did suggest it to be digital in the future and more integrated in their day to day work.

> **Participant 2:** *"It was not necessary in a book, but preparation and starting with some idea was nice... you can see that we are directly on the same page.."*

2. How well are the participants able to understand the different context factors, and is it necessary to understand the concept? The context factors were confusing, but seen as valuable. The difficulty came from semantics. The word 'trend' for example was associated with a static trend and not with a trend describing a hype in society. Furthermore, it was clear that there was a difference in context factors that change over time and those that don't. But further distinction was confusing. However the separation of different context factors was helpful during clustering. For the clusters see appendix K.

3. Do they see value in this workshop in light of innovation? The workshop is valued as meaningful, but a step towards making it concrete and actionable was desired. Overall they had a clear goal in mind after leaving.

> **Participant 2:** (How would you take this back into your work?) *"More focused, with a specific goal in my head."*

They saw it as something you could use to initiate a start-up. This is important, because the Lean start-up approach could be used for the next step.

> **Participant 4:** *You can also start a start-up like this.*

> **Participant 3:** *"If the blue to orange (horizon 1 to 2) step is not filled, then I can actually do nothing. That is not in my job."*

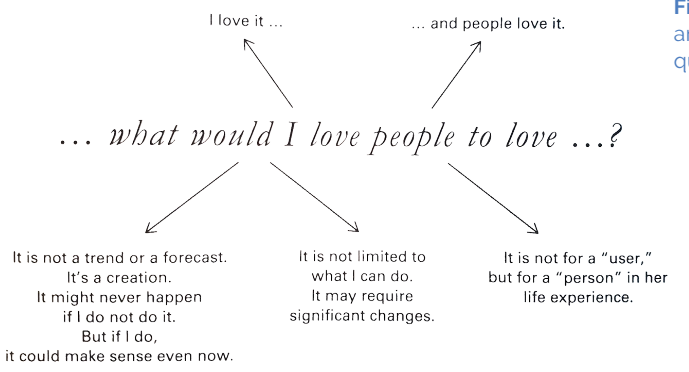


Figure 8.11. A meaning answers the following questions (Verganti, 2017)

4. Are there signs of Innovation of Meaning to be observed? Innovation of meaning involves self-reflection, and through the use of the booklet and the discussion the participants did reflect on their own experiences and what they valued. Furthermore, Verganti (2017) explains that new meaning can be tested with the questions in figure 8.11.

I will argue that the two future interaction visions created by the team satisfy the requirements of Innovation of Meaning, but do lack a clear value for people.

> "We, Achmea, want people to experience stability and security. We can do that, because Achmea prepares society for and fuels discussion on social disruption and dividence of technological classes."

> "We, Achmea, want customers to experience trust and certainty by knowing and trusting their data is trustworthy for others. eg: Identity fraud can be too easy in the future. Achmea can assure / guarantee that your data, in your possession, is safe and integer by means of a datacheck and blockchain storage. After all, your data must be trustworthy for other people to identify you"

8.5. Overall conclusion

I think the pilot was successful. The aim of this workshop is to work from horizon 2 to 3 by using inside-out innovation. Self-reflection of the participants did happen, people were on the same page and had a clear focus on what the future may hold. However, the participants really do want to address the first horizon as well, to make it actionable and to feel satisfied.

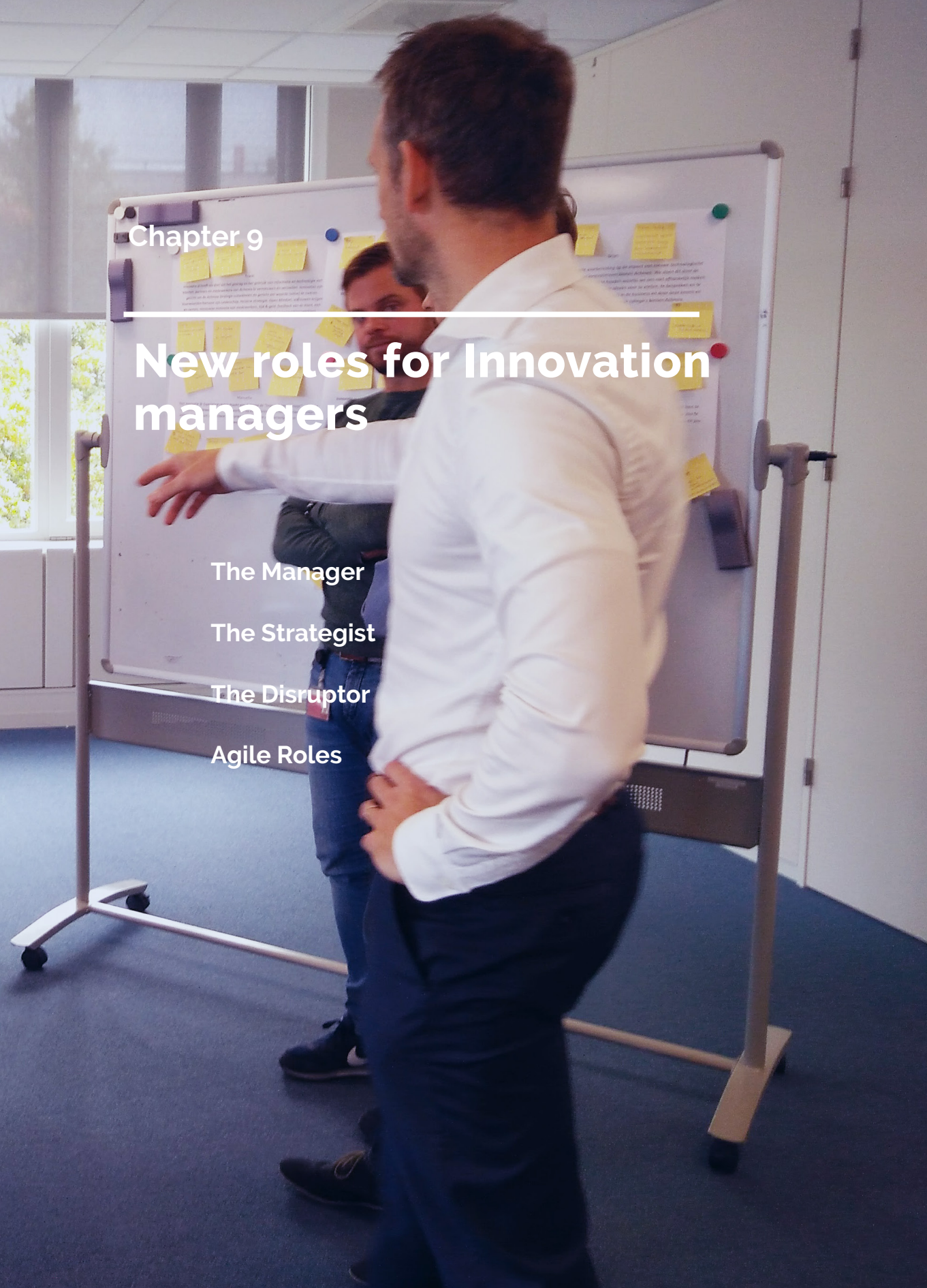
> **Participant 1:** *"It will not help in the politics, but where this is going to help is if you want to offer something... how do you do come to a result in a structured manner."*

8.5.1. Recommendations

For the next pilot I would like to change the following:

- Extend the workshop length to a full day. You really do need the time.
- Keep the context factors, but illustrate them with better examples.
- Lose the booklet and do it digitally, via mail, online forms, whatsapp, etc.
- Add a brainstorm step at the end of the day to find actionable steps they may be able to do today already.
- Give examples of context factors during the session.


Why? I &EC
Plan-check functie
helpen realiseren?
society
Technologie | ICT
tech



Chapter 9

New roles for Innovation managers

The Manager

The Strategist

The Disruptor

Agile Roles

Chapter 9

New roles for Innovation managers

“Shaping the future. Together” is a strategy meant for innovation managers at Achmea. Implementing this strategy has effect on the current role of innovation managers. Therefore, their roles should also be reconsidered, which is done in this chapter. Currently, the management of innovation has three goals.

- **Impact on culture and community (people)**. Innovation projects are in line with the needs of the organization. Therefore, a broad part of organization is involved in the development of the portfolio and thus promotes innovative thinking. By collecting ideas from the organization we achieve not only that our portfolio meets the needs of the organization, but that we also ensure that we use the maximum power of innovation across Achmea and thus promote the innovative, entrepreneurial culture of Achmea.
- **Thought leadership/ enlarge Impact (technology)**. Innovation projects should make broad impact and start from the principle that proven technology can be scaled and be wide applicable.
- **Quick iterative innovation projects (process)**. The aim of the process of managing innovation is to accelerate towards digital insurer (van der Weijden & Wissing, 2017).

The innovation managers themselves are assessed in a slightly different manner: (1) creating impact with technological innovation for the company, (2) providing insight into the progress on the delivery innovation trends and (3) understanding the development of communities for each innovation trend.

The role innovation manager is very broad, because it currently covers complete the innovation process at Achmea. However, my research concluded that the current innovation process at Achmea is incomplete, chapter 4. Therefore, the roles associated with the innovation process are also incomplete. The new strategy, including the process, is aimed to fills some gaps of the current innovation process with introducing a new structure and a envisioning workshop. The change in this innovation process also means it has effect on role of innovation manager.

Based on the new strategy and the matching responsibilities needed in this strategy , a propose three sub-roles for innovation managers: (1) the manager, (2) the strategist and (3) the disruptor. These roles are loosely based on the three innovation roles identified by Rohrbeck & Gemünden (2011) at large corporations. Their study uncovered the 'initiator role', the 'strategist role' and the 'opponent role' are crucial in enhancing the innovative capabilities of a firm. Additional insights for their attitude towards innovation are taken from 'Image of Design thinking' by Valkenburg, Sluijs, & Kleinsmann (2016). They have described different roles designers can take during innovation. And because basis design research should complement technological research in this strategy, elements of the design profession are required.

9.1. The Manager

The innovation project manager is responsible for the management of different innovation projects in the funnel and during design challenges. His/her role is to

initiated and facilitated experiments ,and tests to learn for Achmea. They identify socio-cultural changes and/or changes in customer needs, scout new sciences and technologies that enable companies to create new products, defend against disruptive and substitution technologies, and monitor activities of competitors.

This role reflects mostly the current role of innovation managers. Management of the innovation process is mainly managing the innovation funnel and scouting for new technologies. 'Managers' need to have strong facilitating and/or research skills and a pragmatic attitude, see figure 9.1. for the parts they are responsible for the innovation process. They operate based on facts and experience. Possible professions that would fit this role would be, for example, program and project managers, research related professions, product developers, designers, creatives and Agile coaches.

9.2. The Strategist

The strategist translates insights into strategic options. Assessing insights to change the innovation funnels and portfolios. His/her strategic directions provide strategic guidance for innovation projects. Furthermore, this role is often more senior. The Strategist is also tasked with adapting current business models and provide insights into alternatives. He/she triggers discussion and consolidate opinions throughout the company on strategic level, and helps the organisation to create future directions. Currently innovation managers are working together with senior managers and directors to accommodate the role of strategist, but are limited in involved in strategic planning. Strategists have strong organisational skills and they are realistic and nimble. This would require people with a background in, for example, business development, (change) management, policy making, strategic planning and policy making.

9.3. The Disruptor

The last role is the disruptor. This role challenging assumptions and fosters critical and creative thinking through the company. He/she makes assumption explicit and challenges assumption of innovators to adjust to external changes. They scan for disruptions that could endanger current and future innovations, i.e. potential disruptive change. Also, how and if current innovation projects need to be refocused to adapt to changes in the environment.

They are the thought leaders of the organisation. They inspire employees and make use of vision workshops I created to fuel the thoughts and foster critical and creative thinking among employees. Disruptors need to be visionary, engaging and critical. They need to have creative skills to create engaging artefacts. They operate based on intuition. People working in, for example, creative sector, consultant agencies and change management are suited for this role.

These three different roles work on different parts of the innovation process according to their aim, see figure 7.1. These roles can be fulfilled by multiple people or one individual. One individual could shift between roles whenever it is needed. However, the personality traits to execute all the roles to its fullest may not be found in one person. I would imagine that these three roles are fulfilled by different people, but within the same team.

However, if the organisation wants to implement this new innovation strategy, process, workshop and roles, it must have an overall strategy that supports these kinds of activities. Otherwise, the activities will never be supported by the organisation.

9.4. Agile roles

The new roles for innovation managers may partly substitute roles that already exist within Achmea, such as information managers, business analysts and new business developers. Or it can be the other way around and these current roles are pushed more to be involved with innovation. Either way, these roles are about the innovation, not the working style. That is, in the Agile world you often have specific roles to manage work; Agile manager, Scrum manager, Release train managers and product owners. These Agile roles are still needed and exist alongside these roles. Innovation project, for example, can be done in a Lean-Agile manner with Kanban. Or minimal valuable products can be created with Scrum and then a Scrum-master is preferred to guide the process. Innovation managers are involved for the contents of that project.

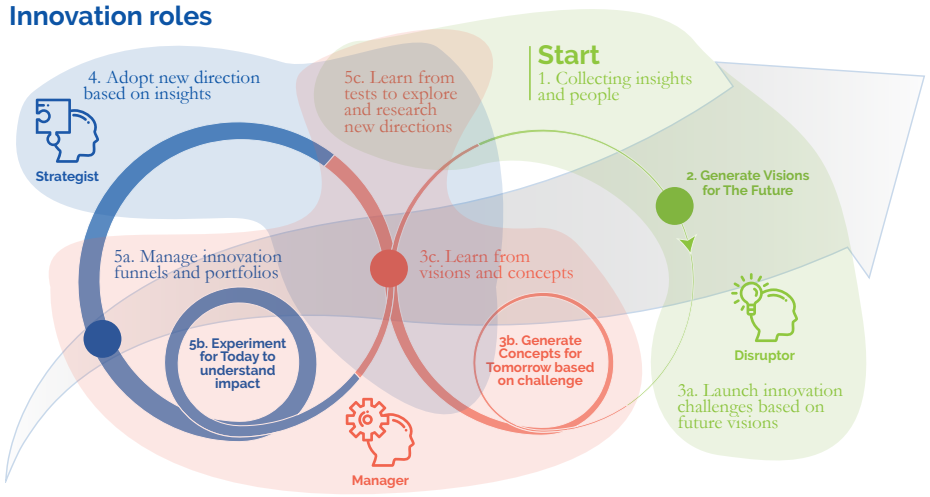


Figure 9.1. The part each role is responsible for within the innovation process

Chapter 10

Adjustments to current IT strategy and implementation

Gap in the current strategy

New strategy: ‘Shared company - shared IT’

Envisioned impact on the strategy map of Achmea

Phase 1: Introduction the use of visions
Pahse 2: Alignment with innovation managers
Phase 3: Intergration
Beyond the strategy

Chapter 10

Adjustments to current IT strategy and implementation

My client for this project has been the Innovation and Experience Centre of Achmea IT. In collaboration with them I have researched and designed a new strategy for technological innovation. For my strategy to be adopted by Achmea, It would be logical to start at team at I&EC. They already support my ideas. This strategy is developed from a technological stand poin, therefore Achmea IT should have the most affinity with this new strategy. We turn our attention first to the strategy of Achmea IT, see figure 10.1.

The current IT strategy is: *"One company – one IT'. The 'One Company - One IT' strategy of Achmea means that we have to realize one common IT environment so we can make the transition to a digital insurer. The foundation we build last year we use the market-oriented IT divisions to set the next step towards a digital insurer'"* (*Verzekeren in een digitale wereld*, 2016, p. 10).

The aim is to leverage the benefits of lower costs from a shared IT infrastructure, therefore to have more competitive advantage within the market. The IT infrastructure is shared by all departments and managed by Achmea IT. They have five key areas of attention, adapted from *Verzekeren in een digitale wereld* (2016):

- **Data - digital propositions and personalized customer service.** Data is extremely valuable for insurers. It allows them to calculated risk. This data is collected from many sources and this will continue to grow with the rise of IoT and other technologies. The maturity of Achmea to handle and store data is very important.
- **Omnichannel – consistent customer experience.** Customers expect to the have same experience across different channels in the digital age. The challenge is to make relatively complex insurance products online accessible in such a way that is consistent and comprehensible. We want to offer customers experience in consistent and personalized way.
- **Networks - sharing knowledge and bundling strengths.** We are becoming more a network organization - a player in a digital value chain - in which we work with different parties on propositions for the market. We work together with technology partners to innovate where possible. The challenge is how to collaborate with each other, both within the organisation and, with partners, and how digital tools can change and facilitate employment.

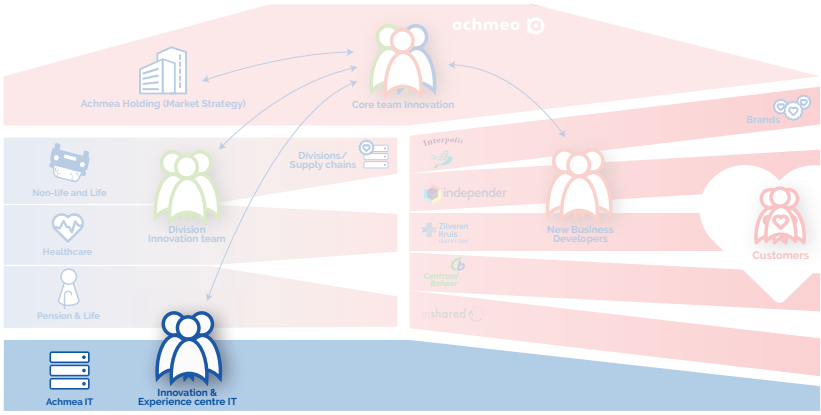


Figure 10.1. The strategy is pushed from within Achmea IT as it is about technology impacting the whole organisation

- **Cloud - flexible and scalable IT services.** Achmea chooses over time for a gradual transition to a 'Hybrid cloud', with standard infrastructure in a private environment. We determine which business critical applications we will run in the cloud and where sensitive data will be saved and secured. The hybrid cloud will make us more flexible and adaptable.
- **Security - we remain the most trusted insurer.** We work with personal data of our customers. We must vent off attacks and show our regulators how integer we handle our data. Security has been and always will be a high priority.

10.1. Gap in the current strategy

'*We support our customers with knowledge and solutions to feel more secure. Together we work on realising a healthier, safer, future proof society.*' That is the vision of Achmea and they deem themselves capable because they have the following core values and qualities, adapted from *Annual Report 2016* (2016):

Core values	**Delivering:** We honour our agreement and beat expectations	**Innovating:** We continuously renew our insurance products and services	**Empathising:** We understand the needs of our customers
Core qualities	**Being professional:** We differentiate ourselves through knowledge, skills and the use of information	**Improving:** Continuous improvement is in our DNA	**Connecting:** We cooperate closely with our customers and partners

Core values and qualities are shared by everyone in the company. Each and every employees lives and breads these values in one form or another and try to live up the these qualities. It's the culture of your companies. Core values are "*A set of beliefs and values that become embodied in an ideology or organizational philosophy thus can serve as a guide and as a way of dealing with the uncertainty of intrinsically uncontrollable or difficult events* (Schein, 2004, p. 29). Digitalization can be regarded as a difficult situation with high uncertainty for Achmea.

Therefore, leveraging the core values of Achmea can be very useful in dealing with digitalization. However, my research has shown that IT finds it hard to live up to the value 'Empathy'.

> **Participant 5:** *"You notice that the urgency to innovate is not felt by everywhere and that IT is a bit further from the customer. There is also work to be done about that. We can make the front look nice, but we must also realize that people at the back do not know, at all, that there is a customer in the first place."*

Achmea IT is strong in delivering what they promise. They have a solid, secure and integer infrastructure. They are professional and known very well how to handle data and knowledge. Moreover, the period of cost-reduction proves they are able to relentless improve themselves. But I have concluded that the innovation process at Achmea IT needs design research. This will address the hardship Achmea IT has with empathizing.

'Connecting' with others means also understanding the other by empathizing with him or her. So, with 'connecting' as one of their core qualities, empathy is very important. Lacking the ability to proper connect with the customers or other partners, which also includes departments within Achmea, also prevents novel innovations to come about (Verganti, 2009).

The key area of focus where you would expect empathy the most should be omnichannel. You will find personalization as important, but this is a task of the brands, not Achmea IT. Therefore, it is up to the brands to do that. However, Achmea IT needs to understand the customers themselves as well, if they want to build IT services with high customizability for each brands. They shouldn't rely only on business requirements, but also try to understand the customer. Relying more on the direct understanding of your customers will result in more effective standardization and customizability of generic and shared IT services.

Introducing my strategy to Achmea IT increasing the core values and qualities of Achmea. Implementing design research addresses the foundation of Achmea's culture and therefore has a chance in succeeding.

10.2. New strategy: 'Shared company - shared IT'

I propose a new adjusted strategy for Achmea IT based on the findings from previous section: *'Shared company - shared IT' strategy of Achmea means Achmea IT serves all the divisions and brands with shared IT services with strong standardization of IT and flexibility for customization. Standardization leverages economics of scale for cost reduction, leverage big data for analytics and makes it easier to collaborate with partners in the network inside and outside the company. Leading customer experience and agility is achieved through the flexibility of customization.*

In order to facilitate this strategy I propose a change to the key areas 'Omnichannel' and 'Networks'. I leave the other areas untouched, because they don't touch the focus of this strategy. The goal is to better understand the customers, departments and partners in their needs. To pervent alienating all employees at Achmea IT, I suggest to do small, but meaningful, changes in the new strategy compared to the current strategy. I have changed only two key areas from the current strategy:

Omnichannel -> Service design – The challenge is to make relevant and engaging services for our customers. Customer experience goes beyond omnichannel and is about the interaction between Achmea and her customers in every conceivable way. We want to make complex insurance products and additional services online accessible in such a way that is consistent, adaptable and comprehensible for brands and customers.

Network -> Collaboration - sharing knowledge and co-creation in networks. We are becoming more a network organization - a player in a digital value chain - in which we work with different parties for new propositions. We work together with partners and customers to innovations where possible and beyond. The challenge is how to collaborate with one other in a dynamic way, both within the organisation and with partners in our network. And how digital tools can change and facilitate this new dynamic collaboration.

10.3. Envisioned impact on the strategy map of Achmea

The strategy of Achmea IT is based on the overall strategy of Achmea. How 'Shaping the Future. Together' affects the strategy of Achmea in general can be seen by matching the activities of the new innovation process and it's imagined outcomes with the success factors of Achmea's Strategy map. Figure 9.2. is adopted from their *Annual report of 2016* (2016). I have surrounded the success factors that are affected by this strategy with blue. I have done is through reasoning, deduction and discussion with employees. A short explanation is written below.

Customer perspective: It will influence all three areas of customer perspective. Deeper understanding of current and future needs are essential in this process and therefore affect all goals related to customers. Underlying the goal *'we match up to current and future customer wishes and requirements'*. of success factors *'Customer are served well by our insurance and services'* is explicitly stating the importance of understanding future needs.

Society perspective, only the second one is impacted by implementing design research for future products. Design research takes into account developments in society through understanding underlying socio-cultural dynamics.

Employee perspective: The first success factor of employee perspective is highly affected by implementing this new strategy. Implementing this new manner of working will improve; Goal 1 *'Achmea employs professionals who excel at customer focus, professionalism and adaptability, enabling us to move with the changing digital and non-digital environment'*, (2) *'We are able to work together in the chain in order to offer our customers the best'* and (3) *'We view things from the outside in and aim to learn and improve continuously'.* The design process takes factors outside and inside Achmea into account, employees of all departments can participate and it will help to design products with digital technology. The same goes for the second success factor with the goal: 'They give meaning to the changing digital and non-digital environment and encourage cooperation in the chain'. The design process is more inclusive for all employees, thus better addressing digitalization.

Partner perspective: Both success factors can be addressed, because the process allows for everyone to participate, including new and trusted partners. Moreover, the end result of the process can result in more daring tenders to potential partners, pushing innovation in the network of Achmea.

Process perspective: All success factors and underlying goals are affected by my proposed process, because they are about utilizing digital technologies. This strategy is designed to leverage digital technology.

Financial perspective: Only the first success factor is really affected, because the process will improve the company in general. Its process, products and services are created to generate value. Optimizing towards the customer because if you understand the customer better, it will result in a better portfolio of products and services.

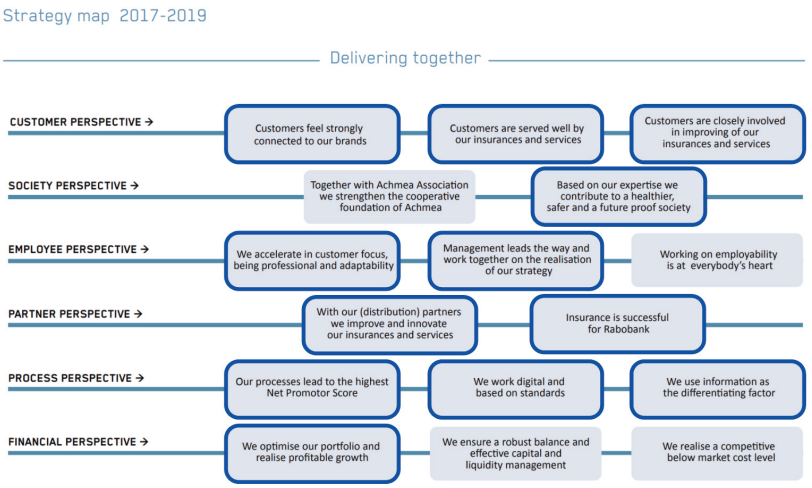


Figure 10.2. Impact of adjustments on the Achmea strategy map.

10.4. Implementation roadmap

In short, I assume my proposed strategy will affect the strategy of Achmea positively. For the implementation of the strategy I made a basic roadmap with steps to consider, see figure 9.3. on the nest page. The roadmap touched four elements; (1) the push of the strategy across Achmea, (2) the setup of the overall innovation process, (3) the role development of innovation managers and (4) the support of communities and additional tools. The strategy can be implemented in three general phases.

10.4.1. Phase 1: Introducing the use of Visions

The first phase introduces the use of visions in the innovation process of I&EC. I&EC is reaching out to employees in Achmea for the workshop and incorporating the visions in official documents, such as a trend report. Innovation managers have to leverage existing communication channels more to find interesting individuals to participate. The workshop thrives on cross-collaboration of departments. The sharing of knowledge is therefore increases. Innovation managers have to change their roles slightly towards the disruptor role to facilitate the workshops.

The use of visions will promote the overall strategy across Achmea. If the impact reaches a critical mass, Achmea IT can discuss to pivot their own strategy more towards the 'Shaping the Future. Together' strategy. If so, it is crucial to do so in collaboration with key stakeholders e.g. Enterprise Information managers and Enterprises Architects. Innovation managers then have to take a more Strategic mindset to do this.

10.4.2. Phase 2: Alignment with innovation managers

If the first phase is successful, it will get more attention of other innovation managers at the brands and divisions. At that moment it is important to include the others innovation managers activity and support them in their own vision creation. It will promote knowledge sharing among the innovation managers and create interesting research opportunities across departments. If I&EC is supporting the other innovation managers as well, then the roles of I&EC will get more specific and further develop in more specific roles.

The cross-collaboration between department pushes on the strategic side of Achmea. More alignment on strategic directions is needed and therefore more attention will be paid to integration of these innovation activities into strategic planning. This also means more supporting of the knowledge sharing across employees and the increasing need to manages these process effectively. Supporting IT systems will be needed to run this process proper and to engage more with the employees of Achmea.

10.4.3. Phase 3: Integration

Once all major innovation actors can see the benefits from an integrated loosely coupled innovation process, Achmea has to support this process on the highest level and adapt its strategy. In order to reach this point, it is crucial that the business utilizes their innovation challenges to enrich the process. It is the last piece of the puzzle. I could imagine these innovation challenges are already used to explore visions, but deliberately embedding innovation challenges will be the final push to complete this strategy. New roles will be more visible and needed, and by incorporating innovation challenges the process will be more inclusive for employees. Anybody can participate in the process. Achmea approaches a real innovation culture.

10.4.4. Beyond the strategy

Throughout the innovation process research is done, experiments are conducted, and insights are judged. All this is data, and data can be analysed. Data driven decision making may be possible by analysing the insights and judgement of employees over time. This reinforces the effects of digitalisation. This strategy works because digital connectivity can mobilize employees effectively. Insights can easily be shared and analysed. It makes the innovation process open and Agile.

Strategy
Strategy implementing the strategy is based on the mantra; 'Show, don't tell'. By doing these visions workshops and proving it is valuable, it promotes itself.

Process
The process needs to be implemented in a bottom up manner. But proving that visions work, we can engage and involve people to build the process together.

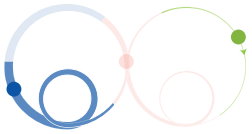
Roles
Innovation managers are the drivers of the strategy and change doing innovation. Their role will become different and will conflict with other roles.

Community
Digitalisation can organise and mobilise groups easily. Innovation can benefit from it. For this strategy it is essential to take into account supporting technologies for communication, collaboration and creation.

Phase 1: Introduction visions

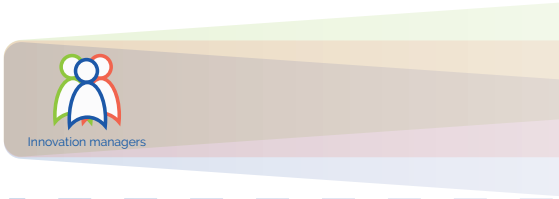
Strategy of I&EC

Get all stakeholders on board to focus more on empathy

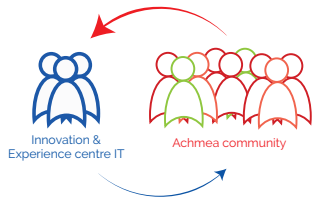


Introduction of workshop for cross-collaboration to promote new strategy; visions integrated in innovation reports

Current roles e.g. Product owners



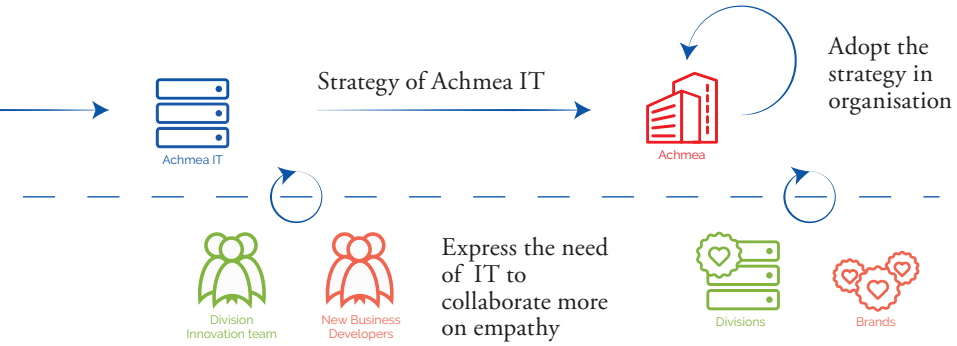
Current roles e.g. Strategist, Directors

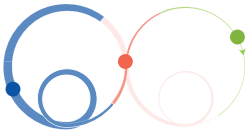


Involve Achmea's network more in the innovation process, support by community tools and communication

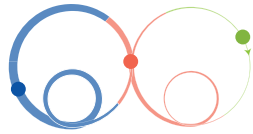
Phase 2: Alignment

Phase 3: Integration

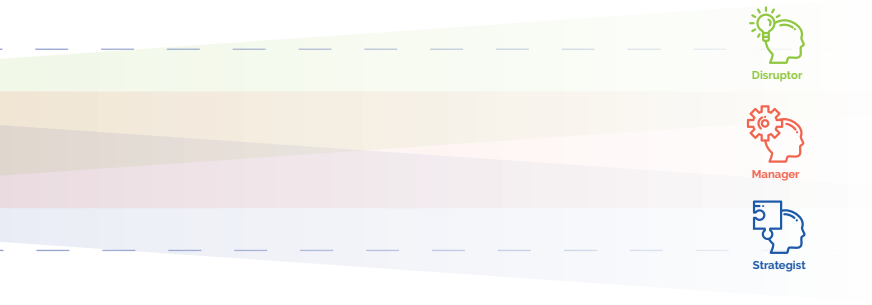


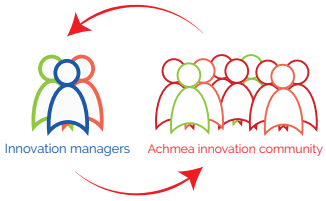


Alignment with other innovation teams and more knowledge sharing and deeper research to fuel the vision workshop better



Close the loop, use innovation challenges activity in innovation process





Foster an innovation community supporting innovation managers to fuel the innovation process

Create an active innovation culture across Achmea that is Agile, open and nimble


MILANO

Chapter 11

Validation and limitations

Chapter 11

Validation and limitations

The design strategy has been based on observations, explorative research, literature and co-creation. Most of the validation already is addressed throughout this report, However to address the academic value of the project I briefly outlines some key validation points in this chapter.

11.1. Project assignment

The overall process in designing this new strategy has been with deep collaboration with the client. Proper objective research and design of the tools is therefore difficult. Opinions and thoughts of myself, employees and client have influenced each other. In order to limit this effect I have written down most my thoughts and insights in memos. These thoughts and memos were often input for discussion with my client other employees and my graduation team. In doing so, I wanted to make it transparent on what ideas and conclusions are based on.
This is most explicit in the first phase of this project. During this phase I have explored and experienced the context of my client by working alongside them. And discussed specific topics with many different employees across Achmea. The observations and insights from this 'coffee research' can be found in appendix D. This phase resulted in finding a problem and an assignment for this project in line with the experiences of Achmea. Therefore, this project has already been grounded from the start.

In retrospect, the assignment morphed from the helping Brand with 'making' digital products to 'developing' digital products. In the end, the unarticulated need of Achmea has been how to come up with novel digital products.

11.2. Generative research

The results from the research have been validated in two manners. First, I matched the results of my research with an internal report (*Dillema's strategische innovatie*, 2017). This is already addressed in the chapter 2,3, and 4. In short, my results were consistent with the report. My research was more detailed on the experiences of the participants. The report was more detailed on results of the innovation activities. Second, I validated if my results, personas and issue map were correct, I revisiting two of my participants. I asked them if they recognized themselves in the results and personas I presented. The participants were asked to read the personas and the issue map I created without them having upfront information about the results of the research, on which the personas are based. Then asked them a series of questions to discuss if they could find themselves in the results. Afterwards, I presented them my results from my research.

The personas were used to validate if I had identified the context of the participants right. For each persona I asked one participant, thus one new business developer and one innovation manager at the business side. Next I presented them my research results and asked if they recognised the results. Both interviewees were in agreement with the results of the research. As I explained the results to them by walking them through the graphics, they both got ahead of my explanation.

> **Participant 5:** (About the key areas, as I explain key area 'Agile working' and 'IT collaboration') *"Actually there is one more fundamental problem with innovation at Achmea. Everybody is just doing. We don't speak to each others. I think a big problem is the coordination".*

She talked about my last key area 'Innovation governance' without realizing that it was already in the graphic.

Both participants were surprised IT didn't valued Agile in innovation process, and were concerned about it. But after explanation that there is a subtle difference between 'making' and 'developing', they both directly understood the reason why. Furthermore, almost all enablers and barriers were agreed upon with exception of a few. Discussion was mostly about the customer centricity of innovations. Both participants wanted to emphasize that customers are highly important and a focal point for innovation for them, but felt that this is not the case with IT. The barrier implicates this is the case for all innovation.

The persona of the new business developer was spot-on. With one suggestion to add universities to their partners. However, the persona for the divisions was slightly off. I regarded the strategic department and the division as one entities. He feed-backed this is not really the case. He agreed upon the fact that most innovations are in very close collaborations, but the drivers are different. He suggests to make a separate persona for strategic innovation. In retrospect, I agree with him. However, this error will not have significant impact as only a few innovations directly originate from the strategy department as compared to the divisions. And innovations from both departments have the same approach.

11.3. Validation of strategy

I have designed the strategy on my own, but have used co-creation to get more insights and defined different elements of the strategy.

11.3.1. Validation of focus of strategy

The focus of the strategy is the creation of visions as a means to coordinate innovation activities and push the innovation itself to be more radical. To validated this element I used a vision workshop with my client. I proposed to facilitate a three day workshop to established a vision and approach to technological innovation for the team, which they lacked up till now. The workshop allowed also for a second validation of the personas by using them during a workshop.

The first day team members were asked to present their visions on innovation at Achmea followed up by a discussion. The second day the team members asked

them to make a positioning statement (Holland, 2015) and abstract a 'Why' (Sinek, 2011). The last day I asked them to fill out the 'What' and the 'How'. The results can be found in Appendix L. These results match with my design direction. The results can be found in chapter 7.

> **Positioning statement:** "*Client, example position statement: Achmea IT brings technology and #social innovation to the work floor, through vision creation, translation and experience. This gives us direction, creates support and increases the involvement of Achmea colleagues. This results in an increase in productivity, motivation and business adoption.*"

11.3.2. Validation of using visions as boundary objects

The strategy works with the use of boundary objects. I have validated this approach on two occasions. The first is the pilot of the workshop, see chapter 8.
The second has been when another opportunity presented itself. The board of directors asked for a vision on the IT infrastructure in 2030 in August. The vision was a collaborative project between the three teams at Strategy and Governance IT. I&EC is one of these teams. Each team was asked to write down a vision for 2030 and then to discuss and combine these visions in to one document. I proposed to our team to centre our vision around a scenario of people in 2030. The scenario acted as boundary object during the discussion. Afterwards I was asked to enrich the scenario with insights of the other team. The document started with the scenario and then explained the implication. Using vision of scenarios centred around people was thus successful as a boundary object. The specific slides of the presentation can be found in appendix M.

In both occasions the vision helped breaking down boundaries in communication between individuals and groups. Therefore, I conclude making visions as boundary objects to help creating and achieving a common goal also helps at Achmea.

11.3.3. Validation of using insights and judgment for visions.

Again the use of context factors to design visions and concepts of products has been validated twice. The most important validation was during the pilot and can be read in chapter 8.

The second validation was before the hypotheses was made, but in retrospect these were content factor cards. An opportunity presented itself when the trend report of I&EC was released in the spring. I offered to prepare and facilitate a workshop for 120 employees during the release. The aim of the workshop was to come up with new value propositions based on technological trends. People were divided into teams of 6 and had two hours to do so. They had to start with a technology.

In preparation I made in collaboration with the team, little cards that hold functionality, benefits or possibilities of each technological trends. Based on these cards the participants had to come up with new ideas. The results were successful. Afterwards people took some cards home as inspiration and feedback was positive. Therefore, I would argue that technological context factors are useful in a creative session. The cards and some photos can be found in appendix N.

In both validations the results were positive. Using context factors as translations of insights as a basis for vision creation works.

11.3.4. Overall validation of the value of this strategy

The overall strategy has not been validated, but some developments may give insights in the credibility of the strategy.

I have asked Prof. Ena Voûte for consultation. She is Dean of the Faculty Industrial Design Engineering at the Delft University of Technology, and has experience in marketing at Unilever and executive experience at Philips. I asked her how to deal with innovation in large corporations with multiple brands. She argues that technology can't be used as market differentiator for brands in these situation and technological innovation must focus on a generic context of the whole organisation. This is in alignment with my ideas about envisioning technology for future customers not related to brands.

During my project I have been asked to develop a new vision and team plan for innovation team at Achmea IT, and have been offered a position to further develop this strategy. The value of my strategy is thus being recognised by the client. The feedback that I have received on this project has been generous. The client has stated that I have helped shape the discussion about innovation on an executive level. The impact of this project in itself has been valuable. Request of employees to help them with innovation are numerous and come from any level in the organisation.

To give an example how this project as impact, Thijs Fleer wrote down two projects that were helped this graduation project. The first is a trend about blockchain. This example illustrated the importance to educated an involve the employees about an new technology. And the second, is about Internet of Things. This example shows to importance for developing an supporting IT infrastructure in advance.

Example 1: Blockchain

"Block Chain is a trend that is still very new to Achmea (and within ecosystem) last year. In 2016 we were looking for sponsors and business ideas from the business for blockchain, because we were operating mostly with the funnel in mind. The ideas and demand from the business within the funnel would make for a rise of Blockchain, so we thought. However, because the business had no idea what blockchain might have for opportunities for Achmea initiative and ideas never came.

Unfortunately, this resulted in a long year with many pilots that had little value and effectiveness in educating the business of the potential of Blockchain. Because of this the initiatives also could not connect with our IT landscape.

In 2017 it was chosen to first determine from an IT perspective what it means to utilize Blockchain technology for our organization, and to identify how other partners within our ecosystem are acting upon blockchain. By joining Euarpco (European) and B3i Consortium (worldwide) we have developed a clear vision of blockchain and have we worked on new use cases for blockchain in partnership with consortia. These use cases have helped to develop a general IT vision on blockchain.

The results of this graduation research project have helped to facilitate the discussion at executive and management meetings to:

1. *improve the collaboration to make a good vision on the 'day after tomorrow'. And addressed the current barriers and issues in the cooperation between IT and business. It is sometimes not good to wait on the business needs / requirements when they do not know about the existence of new technology or how to utilize it.*
2. *help stakeholders understand why we (achmea IT) are going to develop an IT Vision on Blockchain technology. Because this vision can help to develop today, so we can support products tomorrow.*
3. *If had have the insights from this graduation report earlier, we could already have change the way we worked to bring this blockchain development further." (Thijs fleer)*

11.4. Conclusion validation

Throughout this project I have been deeply involved with the context of the project. The client and the organisation has been participating in many ways. The validation of this projects in light of an academic sense may have been limited, but the impact and the value of this project is substantial.

11.5. Limitations of this project

You can do only so much, and you need to make decisions what is important and most relevant. Therefore, this projects has limitations due to time and resources. This generative research is limited in both the actual research and the literature review. For the research the proper amount of participants would have been 24. I interviewed them on two different topics 'Agile' and 'Innovation'. Each topic should have 12 participants (Sanders & Stappers, 2012). I had only eight participants due to time constraints.

Next, the initial coding of the interview is only done by me. Although the statement cards (codes) have been scrutinized, it is still limiting the analysis.

The literature review is limited because of the vast amounts of literature available. I have drawn upon the literature of innovation management, system thinking, new product development, software development, information management and design. This literature review is limited by the biases in my judgment to collect and consolidate the knowledge.

Besides time and resources, the professionality of myself and the nature of this project is limiting the credibility to some extent. I'm, as pre-graduate, prone to make some junior mistakes during the process. The nature of the projects to include the client in the process makes it a challenge to keep up a high standard in between steps. Although it could be argued that including the clients makes it more valuable than a proper executed process. I do believe so, but I have to take into account the natural distance between by self as an young adult and more senior adults. I may have been influenced by this gap during the process in making decisions or to get them on-board. This is mostly impacting the design of the strategy.

Viewing the projects as a pure academic and research endeavour, I would argue it has some major limitations. But viewing this project as design project with strong research, the limitations are less sever. During the project it became evident that the major value of the project has been the recognition of Achmea what innovation is, what new product development in reality entails and putting these topics on the agenda. Therefore, the limitations of this projects are acceptable.

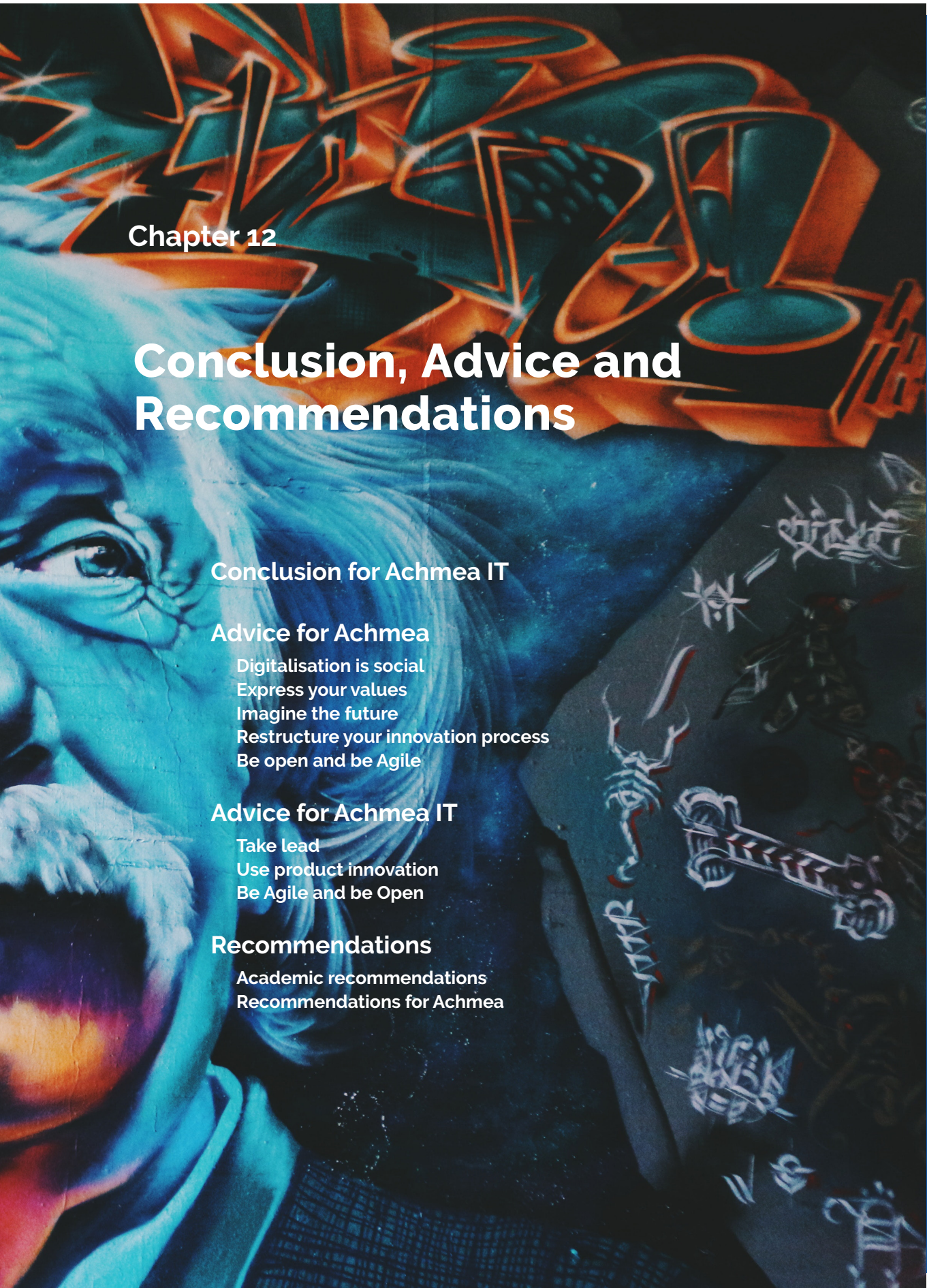
Example 2: Internet of things example

"Internet of Things is a similar example, only this trend was already better known and understood within the ecosystem. This generated a lot of ideas at the business-side and many startups offered IoT-like products. In 2016 there were many pilots done at the business-side. Only after a positive result, IT got involved to integrate the product or service into the main IT infrastructure.

However, we also had to develop a vision about IoT and how it should be support by Achmea IT. Because of the overkill of emerging initiatives we were forced develop a common vision and develop a central IoT platform based on that vision.

The results and the final research process helped:

1. *To understand that with such a trend IoT, we must already have an understanding how and what for platform is needed to support innovation based on this technology. While most of the innovations are happening at the business side, once the IoT platform is also ready and innovations can easily be integrated, then we can easily scale the solution and focus more on delivering value to the customer.*
2. *A shared understanding of the technology to guide and fuel the innovation funnel and directed innovation."(Thijs Fleer)*



Chapter 12

Conclusion, Advice and Recommendations

Chapter 12

Conclusion, Advice and Recommendations

Chapter 12 concludes this project. It will give a quick summary of all that has been research, designed and written. Second, it will summarizes some key take away points for both Achmea and Achmea IT. And lastly, it will recommend next steps in both the academic field and for Achmea.

12.1. Conclusion for Achmea IT

The assignment was: Design tools for Achmea IT to act pro-actively in enabling Achmea brands and Divisions to innovate with new IT opportunities in an agile way, without compromising Achmea IT's integrity and security.

Digital technologies are able to create products that have a new meaning for people and transcend current meaning of products by addressing unarticulated needs of people. In order to create these products a strong innovation process is needed. If you want to enable technological innovation within the company, you need a supporting IT infrastructure and educate employees about possibilities with digital technology. Both can be done simultaneously through a collaborative process of making future visions.

Such a process enables people to understand what is possible with technology and what kind of products they can develop in the future. For the IT department of Achmea it provides a snapshot into the future and gives them understanding how to develop the IT infrastructure in order to properly support their future products. This process is based on the creation of visions. This is done by using an design research method that uses pieces of information about the future and the judgement of people to envision a desirable future. Innovation managers of the Innovation and Experience Centre IT help employees in creating these visions. I have developed a workshop that innovation managers can use to create these visions with employees.

These visions are used in a larger process that link the creation of visions, concepts, and doing experiments together. The visions are used to create concepts during hackathons and tests assumptions in innovation funnels. Both the concepts and experiments are used as input for creating new visions and for providing insights for the development of the IT infrastructure.

The creation of concepts and doing experiments is something that Achmea is already doing. Concepts are generated with innovation challenges during Hackathons, Start-up bootcamps and student projects. Experiments are tested in innovation funnels across Achmea.

This larger innovation process is part of a strategy to direct and guide all innovation activities towards a common vision. The visions created in the workshops are pieces of that common vision of the organisation. They are linked through the values of the organisation and are actively used in the workshops to create visions.

Apart from the introduction of the workshop, all other elements are already present in one form or another. This strategy aims to merely restructure these processes into a coherent innovation process for Achmea. A coherent innovation process is needed to react proper on the disruptive force of digital technology within the insurance market.

Achmea IT can help foster technological innovations with facilitating vision workshops across Achmea. In doing so, a shared goal will emerge and alignment between different departments will be created.

12.2. Advice for Achmea

12.2.1. Digitalisation is social

Digitalisation is as much a technological shift as it is Socio-cultural. Digitalization is a phenomenon which describes the increasing use of information and communication technologies in our society as a whole and in our daily lives. They reshape the fundamentals of how we organise our lives, how we interact with friends and family, how we work and collaborate, and how we understand the world around us. Focus on both the human-side of technology and technology itself is crucial.

12.2.2. Express your values

Achmea is an insurance company which is involved with clients during emotional moments in their life. For example, losing a family member, a car accident, illness, or healthcare of elders. Achmea has strong core values such as empathy and professionality. I have felt these values with many employees during this project. However, Achmea doesn't really express their value explicitly or embraces the values to differentiate in the market. I would advise to leverage these values to create new meaningful products and services for customers. It will increase the novelty within their innovation process.

12.2.3. Imagine the future

The future is uncertain, especially in a market that is prone to be disrupted by digital technologies. Achmea wants to be a leader in the market. Leaders lead. If Achmea wants to lead the industry, it also need to have a vision and express it vividly. It will help guide innovation and change, inside and outside Achmea. I would advise Achmea to state a better purpose for doing things, that is embracing all its products, services and brands.

12.2.4. Restructure your innovation process

Currently, Achmea has many different innovation activities. It has resulted in some successes, but these are successes from a 'hit and miss' strategy. Achmea's

innovation process in its current state is more like a company-wide brainstorm without a clear start and end. Guiding this brainstorm in the right direction and with clear purpose will result in better innovations. In order words, by restructuring different activities and let them benefit from each other, Achmea can reap the fruits of its labour.

12.2.5. Be open and be Agile

Restructuring doesn't mean that the process is rigid or closed. In this Age of digitalisation, openness and agility are important. By loosely coupling different innovation process, Achmea can still achieve a coherent overall innovation process. It is more about effectiveness than efficiency.

12.3. Advice for Achmea IT

12.3.1. Take lead

Digitalisation is an important driver for changes in the market. Digitalisation is technology driven by nature. As the leading authority on information and communication technologies within Achmea, Achmea IT has a responsibility to actively support the organisation in dealing with digital technologies. I would advise Achmea IT to step-up and actively involve themselves in strategic decision making. Utilizing digital technologies and data in general, effectively, will be crucial differentiators in the new insurance landscape. Furthermore, as the IT department, you are more able to look forward and imagine new products and services based on digital technology than the business. The business is mostly occupied with reacting to the market on a day to day basis. Achmea IT can therefore easier guide and lead new product development. This doesn't mean business is cut out in this process, that would be fatal.

12.3.2. Use product innovation for process and infrastructure

Achmea IT can use the development of future product offerings to get a sense of what the future state of IT infrastructure needs to support. The value that an organisation delivers to its customers determines how the company is organised. Thus, creating future products and services will give insights in how the future state of the organisation will be and how the IT department fits within this image.

Additional this process helps other employees to get familiar with digital technology and get a sense what is possible with digital technology in the development of new products and services.

12.3.3. Be Agile and be Open

Being Agile and open is crucial for thriving in the digital age. For Achmea IT this means creating services and tools that facilitate this form of collaboration.

12.4. Recommendations

12.4.1. Academic recommendations

In this report I have touched upon complexity, loosely coupled processes, open networks and emergence of a systems. These are all concepts found in the field of system thinking, which I have been introduced to in different electives and by reading books, but I have only scraped the surface of this field. It think it is best to let people judge the assumptions I have made about this field of knowledge. As a starting point, I have found this podcast that explains better the underlying thoughts I have about this topic.

Link: *http://design4emergence.com/a-complex-systems-approach-to-corporate-innovation-and-change/*

Additional validation of the workshop. I have validated the workshop in limited conditions. Proper hypotheses, better indicators for 'development criticism' and a controlled test environment are needed to rise this project to academic levels. Additional literature is needed to make this study coherent. Scientific knowledge has been used throughout this project, but has never been consolidated into a comprehensive literature review.

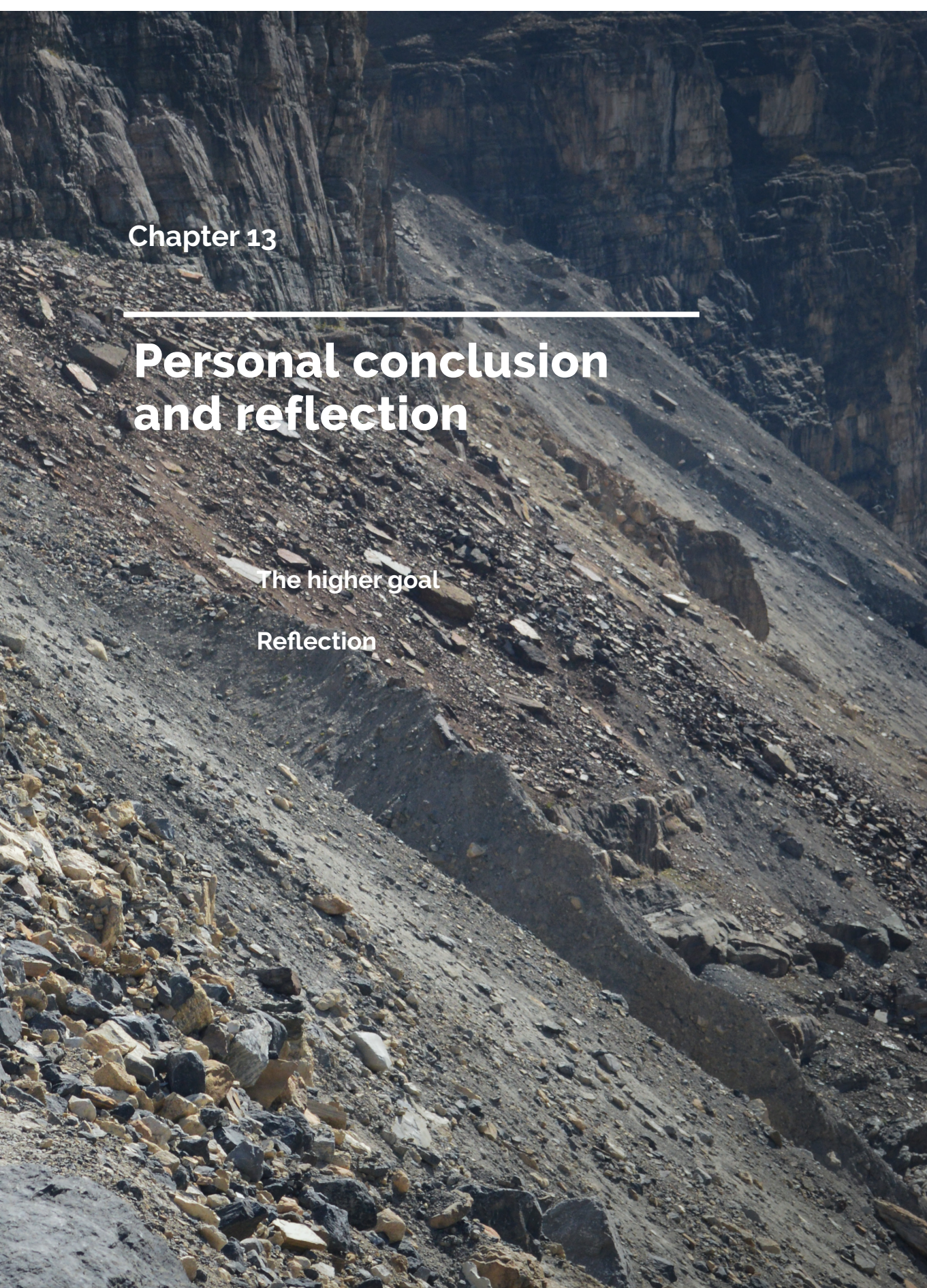
Additional expertise in the creation of digital products and software development is needed to properly position this project with the academic landscape. Also the area of service design, with concepts such as customer journeys and customer experiences may prove to have valuable input for this project.

Evaluated if this project has generated new knowledge. This strategy may already have been written down under different banners in other areas, especially in the area of strategic planning. Furthermore, more clarification is needed between concepts such as visions, mission, goals and targets. In the area of strategic planning these are better explored and defined. The future visions created in the workshop, for example, may better suited the description of 'goals' then visions.

12.4.2. Recommendations for Achmea

This project is mostly been done by one person, me. It is therefore advisable to have others scrutinized the ideas and concepts presented in this report. During the project I have involved different employees across different departments and with high and low positions within the company. However, the finalized product - this report – is still mostly written by me.

Second, it is impossible to have a full overview of how the organisation is run. Therefore, this strategy should be looked at by other employees to see where opportunities and challenges are in implementing this strategy. I can imagine I missed critical business processes that need to be considered.
Third, exploring how customer journeys can actively being used in this process may have significant benefit for the overall process. Customer journeys are increasingly more used as a guideline to provide value to the customer. Incorporating customer journeys may strengthen the link between current improvements and future innovations. And customer journeys can also be used to more clearly link the IT infrastructure to customer experience, because IT service can be directly related to touchpoint with the clients.



Chapter 13

Personal conclusion and reflection

The higher goal

Reflection

Chapter 13

Personal conclusion and reflection

The last chapter concludes how I have seen my project, and what the end result has been for myself as a designer. I end with all short reflection on my biggest lesson during this project.

13.1. The higher goal

It is hard to write a proper conclusion about this project. This project has been evolving from the beginning and it is nowhere near finalization, nor will it ever be. The underlying question of this project is how an organisation can deal with changes in the environment that are volatile, uncertain, complex and ambiguous. This question is not bound by time, it has always been there, but in this age of digitalisation we have realized for what it is. Digitisation has made us more connected and understandable of our environment. Digitization has shown us how dynamic the world really is, but it has also given us tools to deal with it.
Nassim Nicholas Taleb, one of the greatest thinkers of our time, and the one who predicted the finical crisis of 2008, wrote in his book on uncertainty 'The black Swan';

> *"For Hayek (an economist), a true forecast is done organically by a system, not by fiat (authority). One single institution, say, the central planner, cannot aggregate knowledge; many important pieces of information will be missing. But society as a whole will be able to integrate into its functioning these multiple pieces of information. Society as a whole thinks outside the box. Hayek attacked socialism and managed economies as a product of what I have called nerd knowledge, or Platonicity—owing to the growth of scientific knowledge, we overestimate our ability to understand the subtle changes that constitute the world, and what weight needs to be imparted to each such change* (2007, p. 179.)"

For my this phrase symbolizes what I hope to achieve with this project. In my design guidelines of chapter 6, I emphasized the importance of the strategy being open and network, because I don't believe a single 'central planner' is able to effectively react to the changes. Digital technologies have the ability to help organise an open network of actors that innovate and react to changes.

Digital technologies makes it easy to share knowledge and organise people. New work forms, such as Agile, enables us to fully embrace digital technologies to make meaningful products and services that fit these dynamic markets.

But, to mobilize people we have to have a common purpose that is shared and supported by the majority. What that goal is and who defines it, is something that emergence from within. From the values and dreams of people, the things they desire and the choices they make. A shared vision of the organisation forms from these individuals.

Such a networked organisation is better able to understand socio-cultural dynamics of its environment and the impact of digital technologies, especially when tools are used to research unarticulated needs and the future context of people.

The employees and the people in the network of Achmea are the sensors for Achmea. With this strategy I hope to discover that shared vision of Achmea. The strategy, innovation process and workshop enables employees to make their vision for the future explicit, and to be reactive to their environment. These visions make it possible to inspire and guide actions of individuals inside and outside the organisation towards a common goal.

Personally, the conclusion of this project is that I, as a designer, have tried to capture this phenomenon by designing a strategy, innovation process and workshop for letting employees express their visions. For this, I used a combination of different approaches; Innovation of Meaning (Verganti, 2017), Vision in Product Design (Hekkert & Dijk, 2011), Con-textmapping (Sanders & Stappers, 2012), Backcasting (Vergragt & Quist, 2011) and the Three Ho-rizons Method (Curry & Hodgson, 2008).

13.2. Reflection

I had chosen Achmea as a company for my graduation project, because I felt I could do something meaningful at an IT department with my skills as a designer. As a student I noticed the shifts that was happening with in the financial sector and I saw opportunity. I acted on a hung. And this has been the 'name of the game' during this project, so I thought.

In this project and with the help of personality tests, I have discovered that I need to understand what is happing. If not, then I will not accept new information or opinions. This drive to really understand the fabric of the context has always been there. It is way, I believe in submerging yourself in the environment of the assignment is essential for a good outcome. The fact that I wanted to do an internship before starting with my graduation project is one major example of this.

I believe it is one of my core strengths. I have made a very complex environment tangible for myself and others. Furthermore, I have done so in an engaging way with employees throughout Achmea. However, this strength has also been proven a major pitfall. Complex problems are wicked, having solved one question will generate more question. My drive to understand the context had driven me into disarray and confusion. There was to much information and I found it hard to draw a conclusion. Each conclusion was not sufficient addressing the context in my opinion.

The struggles to concluded in a simple and compensable way was especially hard in driving the project forward. I take pride in the way I engage others and co-create solutions, but I'm also well aware that I may us others to compensate for my own shortcomings. In order words, I need other to channel my thought into something anybody can understand. It may have been my ignorance and/or arrogance to reach out and involve people as I saw fit, but it helped to move the project forward and people seemed to enjoy it. This project has made me aware of this phenomenon.

Although I see value in working from within the context, I also acknowledge that an outside perspective is even more important in such situation. Meetings with my chair, mentor and fellow students were challenging, and somethings puzzling.
In the end, I'm satisfied with the results. I haven't always seen the value of my action, but others did. It has made me insecure in times, but I'm still humbled and amazed by the impact that this project has on the Achmea. In my view these credits go to my colleagues at the innovation and experience centre IT. They have been very supportive and fun to work with.

Chapter 14

References

Anderson, N., De Dreu, C. K. W., & Nijstad, B. A. (2004). The routinization of innovation research: a constructively critical review of the state-of-the-science. *Journal of Organizational Behavior*, *25*(2), 147–173. https://doi.org/10.1002/job.236

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, *40*(5), 1297–1333. https://doi.org/10.1177/0149206314527128

Annual Report 2016. (2016). Zeist. Retrieved from https://www.achmea.nl/SiteCollectionDocuments/Achmea-AR2016-ENG.pdf

Baghai, M., Coley, S., & White, D. (1999). *The alchemy of growth : practical insights for building the enduring enterprise*. Perseus Books.

Barrett, M., Davidson, E., Prabhu, J., & Vargo, S. L. (2015). Service Innovation in the Digital Age: Key Contributions and Future Directions. *MIS Quarterly*, *39*(1), 135–154. https://doi.org/10.1016/S0090-2616(98)90006-7

Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., … Thomas, D. (2001). Manifesto for Agile Software Development. Retrieved May 16, 2017, from http://agilemanifesto.org/

Bente, S., Bombosch, U., & Langade, S. (2012). *Collaborative Enterprise Architecture: Enriching EA with Lean, Agile, and Enterprise 2.0 practices*. *Collaborative Enterprise Architecture*. Newness. https://doi.org/https://dx-doi-org.bibliopam.ecp.fr/10.1016/B978-0-12-415934-1.00001-7

Brătianu̧, C., & Bălănescu, G. V. (2008). Vision, Mission and Corporate Values. A Comparative Analysis of the Top 50 U.S. Companies. *Management & Marketing*, *3*(3), 19–38. Retrieved from http://www.researchgate.net/publication/227430445_Vision_mission_and_corporate_values._A_comparative_analysis_of_the_top_50_U.S._companies/file/50463521271acb28bd.pdf

Bughin, J., Holley, A., & Mellbye, A. (2015). Cracking the digital code: McKinsey Global Survey results | McKinsey & Company. Retrieved September 26, 2017, from http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/cracking-the-digital-code

Carlile, P. R. (2004). Transferring, Translating, and Transforming: An Integrative Framework for Managing Knowledge Across Boundaries. *Organization Science*, *15*(5), 555–568. https://doi.org/10.1287/orsc.1040.0094

Carlo, J. L., Gaskin, J., Lyytinen, K., & Rose, G. M. (2014). Early vs. late adoption of radical information technology innovations across software development organizations: An extension of the disruptive information technology innovation model. *Information Systems Journal*, *24*(6), 537–569. https://doi.org/10.1111/isj.12039

Cases - Muzus. (2017). Retrieved November 12, 2017, from https://muzus.nl/cases/

Curry, A., & Hodgson, A. (2008). Seeing in multiple horizons: Connecting futures to strategy. *Journal of Futures Studies*, *13*(1), 1–20.

Damanpour, F., & Schneider, M. (2006). Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. *British Journal of Management*, *17*(3), 215–236. https://doi.org/10.1111/j.1467-8551.2006.00498.x

De Jongh, S., & De Vos, M. (2017). Willem van duin (achmea) in gesprek met chris heutink (randstad). *Am: Insider-Outsider*, (36), 42–45. Retrieved from http://content.presspage.com/uploads/1060/am36-42-insideroutsider-achmearandstad.pdf?10000

Denning, S. (2013). Why Agile can be a game changer for managing continuous innovation in many industries. *Strategy and Leadership*, *41*(2), 5–11. https://doi.org/10.1108/10878571311318187

Design Council. (2005). Eleven lessons: managing design in eleven global brands. Retrieved from http://www.designcouncil.org.uk/sites/default/files/asset/document/ElevenLessons_Design_Council (2).pdf

Dillema's strategische innovatie. (2017).

Fitzgerald, M., Kruschwitz, N., Bonnet, D., & Welch, M. (2013). Embracing digital technology—a new strategic imperative. Retrieved September 26, 2017, from https://www.capgemini-consulting.com/embracing-digital-technol ogy-a-new-strategic-imperative

Flumerfelt, S., Bella Siriban-Manalang, A., & Kahlen, F. (2012). Are agile and lean manufacturing systems employing sustainability, complexity and organizational learning? *The Learning Organization*, *19*(3), 238–247. https://doi.org/10.1108/09696471211219976

Hekkert, P., & Dijk, M. van. (2011). *Vision in design : a guidebook for innovators*. BIS Publishers.

Holland, B. (2015). How To Write a Brand Positioning Statement In 3 Easy Steps - MilesHerndon. Retrieved October 17, 2017, from https://milesherndon.com/blog/how-to-write-a-brand-positioning-statement

HP. (2015). Agile is the new normal, 1–3. Retrieved from http://www8.hp.com/h20195/v2/getpdf.aspx/4AA5-7619ENW.pdf?ver=1.0

Jongerius, P. (2013). *Get Agile : Scrum for UX, design and development*. BIS Publishers. Retrieved from http://www.bispublishers.com/get-agile.html

Kembaren, P., Simatupang, T. M., Larso, D., & Wiyancoko, D. (2014). Design Driven Innovation Practices in Design-Preneur Led Creative Industry. *Journal of Technology Management and Innovation*, *9*(3), 91–105. https://doi.org/10.4067/S0718-27242014000300007

Kleyngeld, J. (2012). Achmea IM&IT: Meer business impact met integrale IT-sturing. Retrieved May 25, 2017, from https://financieel-management.nl/artikel/achmea-imenit-meer-business-impact-met-integrale-it-sturing

Kowalkowski, C., Kindström, D., Alejandro, T. B., Brege, S., & Biggemann, S. (2012). Service infusion as agile incrementalism in action. *Journal of Business Research*, *65*(6), 765–772. https://doi.org/10.1016/j.jbusres.2010.12.014

Lederer, M., Kurz, M., Betz, S., & Schmidt, W. (2017). Some say Digitalization -others say IT-enabled Process Management thought through to the End. https://doi.org/10.1145/3040565.3040574

Lyytinen, K., Yoo, Y., & Boland, R. J. (2015). Digital product innovation within four classes of innovation networks. *Information Systems Journal*, 47–75. https://doi.org/10.1111/isj.12093

Mejia Sarmiento, R., & Simonse, L. (2014). Design of vision concepts to explore the future: nature, context and design techniques

Nadella, S., Shaw, G. (Microsoft executive), Nichols, J. T., & Gates, B. (2017). *Hit refresh : the quest to rediscover Microsoft's soul and imagine a better future for everyone*. Harper Business. Retrieved from https://www.amazon.com/Hit-Refresh-Rediscover-Microsofts-Everyone-ebook/dp/B01HOT5SQA

Nambisan, S., Lyytinen, K., & Song, M. (2016). Digital Innovation Management: Reinventing Innovation Management in a Digital World, (February 2015).

Nerur, S., Mahapatra, R., & Mangalaraj, G. (2005). Challenges of migrating to agile methodologies. *Communications of the ACM*, *48*(5), 72–78. https://doi.org/10.1145/1060710.1060712

Norman, D. a, & Verganti, R. (2012). Incremental and Radical Innovation. *Design Issues*, (2011), 1–19. https://doi.org/10.1162/DESI_a_00250

Oswald, G. (2017). *Shaping the Digital Enterprise*. https://doi.org/10.1007/978-3-319-40967-2

Over Achmea. (2017). Retrieved May 25, 2017, from https://www.achmea.nl/over-ons/Paginas/default.aspx

Overal medische hulp op zak - App de Vakantiedokter. (2017). Retrieved November 12, 2017, from https://vakantiedokter.zilverenkruis.nl/over-de-app/

Pisano, G. P. (2015). You Need an Innovation Strategy. Retrieved October 12, 2017, from https://hbr.org/2015/06/you-need-an-innovation-strategy

PlayStation. (2017). Retrieved November 16, 2017, from https://en.wikipedia.org/wiki/PlayStation

Quist, J., Wittmayer, J. M., & Steenbergen, F. Van. (2010). Combining backcasting and transition management in the community arena. *Pathways, Transitions and Backcasting for Low-Carbon and Sustainable Lifestyles*, 33–54.

Robinson, J. B. (1990). Futures under glass: A recipe for people who hate to predict. *Futures*, *22*(8), 820–842. https://doi.org/10.1016/0016-3287(90)90018-D

Rohrbeck, R. (2010). Towards a Maturity Model for Organizational Future Orientation. *Academy of Management Proceedings*, *2010*(1), 1–6. https://doi.org/10.5465/AMBPP.2010.54493637

Rohrbeck, R., & Gemünden, H. G. (2011). Corporate foresight: Its three roles in enhancing the innovation capacity of a firm. *Technological Forecasting and Social Change*, *78*(2), 231–243. https://doi.org/10.1016/j.techfore.2010.06.019

Samenvatting Group Businessplan. (2016).

Sanders, E. B.-N., & Stappers, P. J. (2012a). *Convivial design toolbox : generative research for the front end of design*. BIS. Retrieved from http://www.bispublishers.com/convivial-design-toolbox.html

Sanders, E. B.-N., & Stappers, P. J. (2012b). *Convivial design toolbox : generative research for the front end of design*. BIS.

Schein, E. H. (2004). Organizational Culture and Leadership. *Leadership*, *7*, 437. https://doi.org/10.1080/09595230802089917

Simonse, L. W. L., Hultink, E. J., & Buijs, J. A. (2015). Innovation Roadmapping: Building Concepts from Practitioners' Insights. *Journal of Product Innovation Management*, *32*(6), 904–924. https://doi.org/10.1111/jpim.12208

Sinek, S. (2010). *How great leaders inspire action | Simon Sinek - YouTube*. Retrieved from https://www.youtube.com/watch?v=qp0HIF3SfI4

Sinek, S. (2011). *Start with why : how great leaders inspire everyone to take action*.

Solvabiliteit. (2017). Retrieved May 29, 2017, from https://www.achmea.nl/over-ons/solvabiliteit/Paginas/default.aspx

Strategische innovatiefunnel zakelijk. (2017).

Strong, E. K. . J. (1925). Theories of selling. *Journal of Applied Psychology*, *9*(1), 75–86. https://doi.org/10.1037/h0070123

Taleb, N. N. (2008). *The black swan : the impact of the highly improbable*. Penguin.

Tsourveloudis, N. C., & Valavanis, K. P. (2002). On the Measurement of Enterprise Agility. *Journal of Intelligent and Robotic Systems*, *33*(3), 329–342. https://doi.org/10.1023/A:1015096909316

Valkenburg, R., Sluijs, J., & Kleinsmann, M. (2016). Images of Design Thinking, (October).

van der Weijden, G., & Wissing, R. (2017). *Beleid 2016-2019 Managen Innovatie*.

Van Duin, W. (2017). Resultaat gestegen door endementsmaatregelen. Retrieved from https://www.achmea.nl/SiteCollectionDocuments/Perspresentatie halfjaarcijfers 2017 - NED.pdf

Van Waardenburg, G., & Van Vliet, H. (2013). When agile meets the enterprise. *Information and Software Technology*, *55*(12), 2154–2171. https://doi.org/10.1016/j.infsof.2013.07.012

Vargo, S. L., & Lusch, R. F. (2008). From goods to service(s): Divergences and convergences of logics. *Industrial Marketing Management*, *37*(3), 254–259. https://doi.org/10.1016/j.indmarman.2007.07.004

Verganti, R. (2008). Design, meaning, and radical innovation: A metamodel and a research agency. *Journal of Product Innovation Management*, *15*, 436–456.

Verganti, R. (2009). *Design-driven innovation : changing the rules of competition by radically innovating what things mean*. Harvard Business Press.

Verganti, R. (2017). *Overcrowded : designing meaningful products in a world awash with ideas*. Retrieved from https://mitpress.mit.edu/books/overcrowded

Vergragt, J. P., & Quist, J. (2011). Backcasting for sustainability: Introduction to the special issue. *Technological Forecasting and Social Change*, *78*(5), 747–755. https://doi.org/10.1016/J.TECHFORE.2011.03.010

Verzekeren in een digitale wereld. (2016).

Visser, F. S., Stappers, P. J., van der Lugt, R., & Sanders, E. B.-N. (2005). Contextmapping: experiences from practice. *CoDesign*, *1*(2), 119–149. https://doi.org/10.1080/15710880500135987

Voros, J. (2001). A Primer on Futures Studies, Foresight and the Use of Scenarios. *Foresight Bulletin*, *6*(6), 1–7.

Weiss, L. (2002). Developing Tangible Strategies. *Design Management Journal*, *13*(1), 33–38. https://doi.org/10.1111/j.1948-7169.2002.tb00296.x