momento

a strategic alignment tool for the Schedule-Tool project team
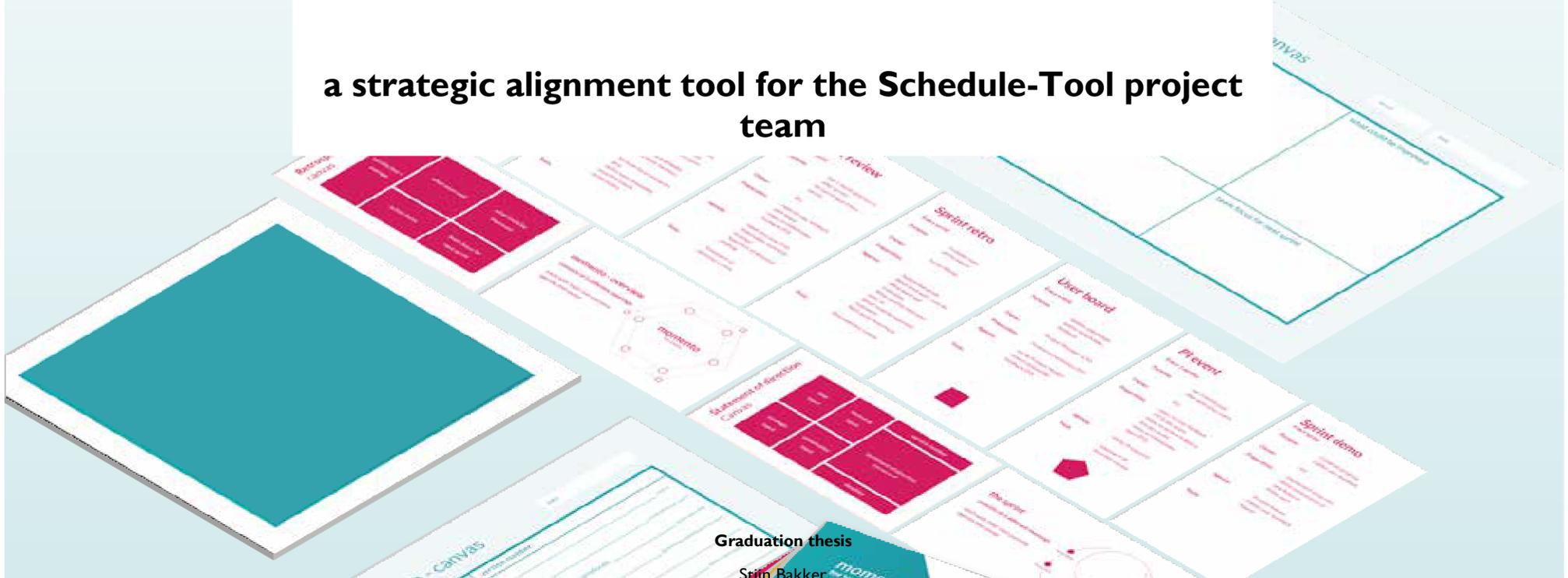
Graduation thesis

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TUDelft

pride through ownership

ownership through collaboration

collaboration through alignment

alignment through design

Executive summary

This thesis studies how design might be used to create strategic alignment between Schedule-Tool product development and corporate strategy.

FLYCO has defined a new strategy to transform airline operation to become data-driven. One of the teams working on this is the Schedule-Tool project team. This team creates Schedule-Tool; a software based tool for flight schedule managers to support them in making 'optimal' flight schedules by intelligently evaluating thousands of alternative flight schedules. Development of this product has reached a point where it can be used by flight schedule managers. In testing and developing with these users the team can develop and implement the tool further. This collaboration with users and further development requires the project team to have a good understanding of the FLYCO strategy. Knowledge of this strategy is necessary for the team to make decisions on what to develop. In other words; the team needs to be aligned with corporate strategy.

This thesis studies how design might be used to create strategic alignment between Schedule-Tool product development and corporate strategy. In two research cycles the problem was explored from the perspective of the team. First through in-depth interviews and observations, followed by a series of 'design interventions' in which the researcher experimented with solutions to identified problems to study the problem more in-depth.

It was found that the team does not have a clear objective, or way of working. This makes it difficult for the team to manage itself, causing the team to 'drift'. From the perspective of the team, it is unclear what the vision, mission and strategy of the department of the Accelerator Team is. This hinders the team in setting explicit goals and evaluating progress.

To remedy this problem two designs were created. At the basis of these designs lies the idea of explicit goal setting. In a specially designed method the team is encouraged to write down an explicit 3-month goal, then a 1 month goal. These goals are incorporated in a product-development methodology similar to Scrum. To support the adoption of this methodology a card-set was created containing cards that team-members can use during the various meetings of the methodology.

To resolve strategic unclarity a culture book was designed that incorporates the mission, principles and way of working into a single reference point. This reference point was designed as input for setting 3-month goals by the Schedule-Tool team.
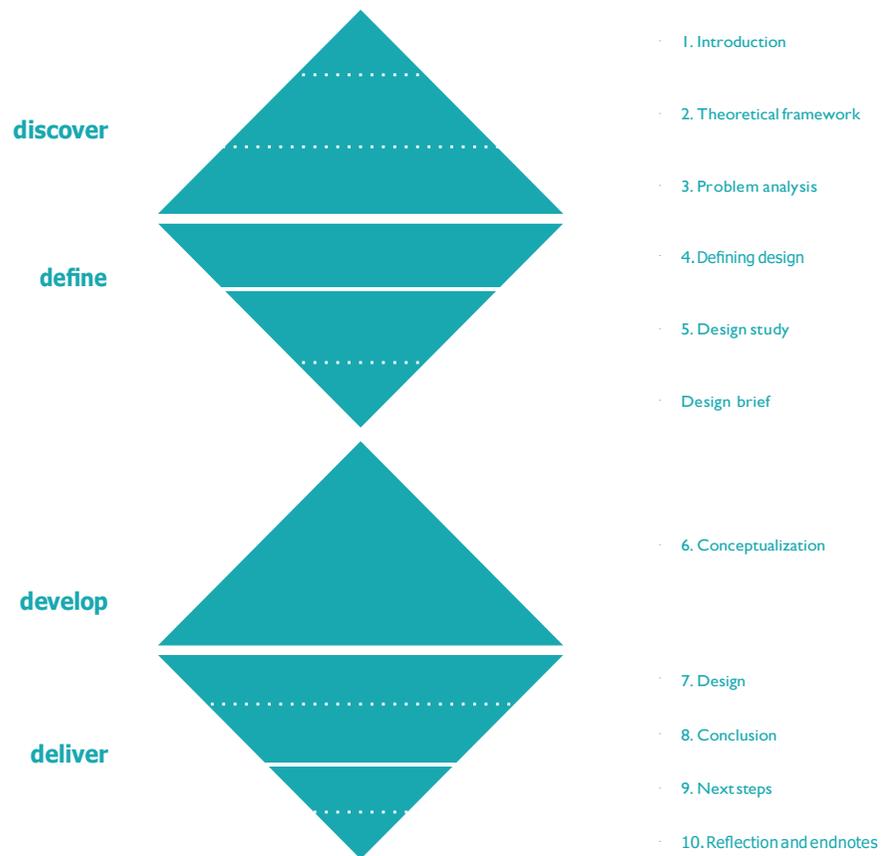
discover

define

develop

deliver

Figure 1 Report structure

Report structure

The report follows a double diamond structure (Design Council, 2005), consisting of four phases discover, define, develop deliver (Figure 1).

Discover. In the first part of this report the problem and context are introduced. Then a theoretical framework is created in chapter 2. This theoretical framework is then used to study the problem in chapter 3: Problem analysis

Define. Having a first grasp of the problem and its complexity, chapter 4 introduces a second theoretical framework studying the applications of design. The results of this framework are then used for a second cycle of research reported in chapter 5. Combining all the insights from chapter 1 till 5, the second part of the report closes with a design brief

Develop. Chapter 6 takes the design brief as a starting point, and describes the ideation and conceptualization of the final design.

Deliver. The design is presented in chapter 7, discussing its details. Chapter 8 wraps up the report by answering the research question raised in chapter 1: Introduction. This conclusion is then followed by a plan for implementation (chapter 9) and a reflection on the project (chapter 10)

Reading guide

Throughout the report important insights are highlighted,
and grouped together in gray blocks of text.

Each chapter ends with a conclusion, grouped together
in a dark-turquoise block of text.

Scattered throughout the report are essays in which I structure thoughts and
reflect on the project, grouped together in a pink block of text

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Chapter 1:

Introduction

In this chapter I introduce the company, department, project team and problem that are subject of this thesis. Furthermore, I outline the research approach and report structure.

FLYCO and Accelerator Team (AT)

Due to changing circumstances in the aviation market, somewhere in the last decade operation of FLYCO became less profitable. This decline in profitability triggered the prompt for the FLYCO to become better organised. A strategy was adopted to develop a better understanding of what the airline offers, and how it operates. This requires the airline to shift the (intuitive) knowledge of operational managers into processes, to enable fact-based decision making. In other words; the airline adopted a strategy to become data driven. The second aspect of this strategy is the recognition that change is constant, and therefore agility will become more important for the airline. This is part of the same data-driven strategy.

Out of this strategy the department of the 'Accelerator Team' was founded. It is the job of this department to transform airline's operation. To act on FLYCO's strategy AT has adopted the tactic of developing software-based tools that support operational managers.

Schedule-Tool

One of the teams developing such a product is the Schedule-Tool project team. This team builds 'Schedule-Tool'; a tool for flight schedule managers to support them in creating optimal schedules. Whenever an unexpected occurrence happens (for example; unexpected maintenance, storm or strike), the planned flight schedule has to be altered. Flights have to be swapped (executed by a different plane), delayed or even cancelled. This is a complex task to perform. Each decision to delay or cancel brings with it costs, for example penalties to the airport, compensation for the passengers and future cost like customer satisfaction. The objective of the flight schedule managers is simple; to reduce the cost-impact of the unexpected occurance for FLYCO. Currently this is done through a combination of intuition, experience and some software tools that allow for quick calculation of costs. Still, it is up to the managers to explore the available options, their associated costs and decide on a final change in the schedule.

Schedule-Tool automates part of the process the managers follow (Figure 3). When run, the Schedule-Tool algorithm collects all available data (for example runway availability, passenger cost, airplane availability). Then the algorithm starts to explore different "options" and the associated
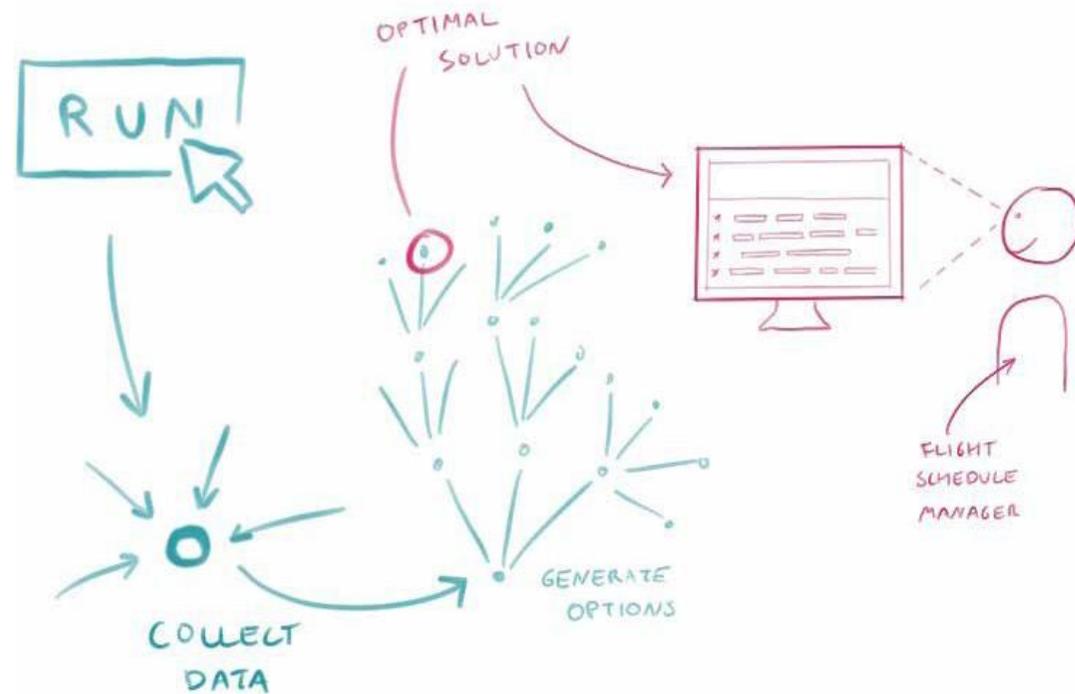

Figure 3 Schedule-Tool

costs. After running, the software presents the manager with an optimized schedule. In a graphical interface this is shown as a grid of blocks, each block represents a flight, each row represents an airline that will execute the flight. The manager can 'browse through' the schedule to understand the costs involved and the impact on the passengers. After his evaluation it is up to the manager to 'implement' the solution. This means that the schedule is decided on as definitive, and as a result all subsequent operational managers and crew are informed of the schedule change.
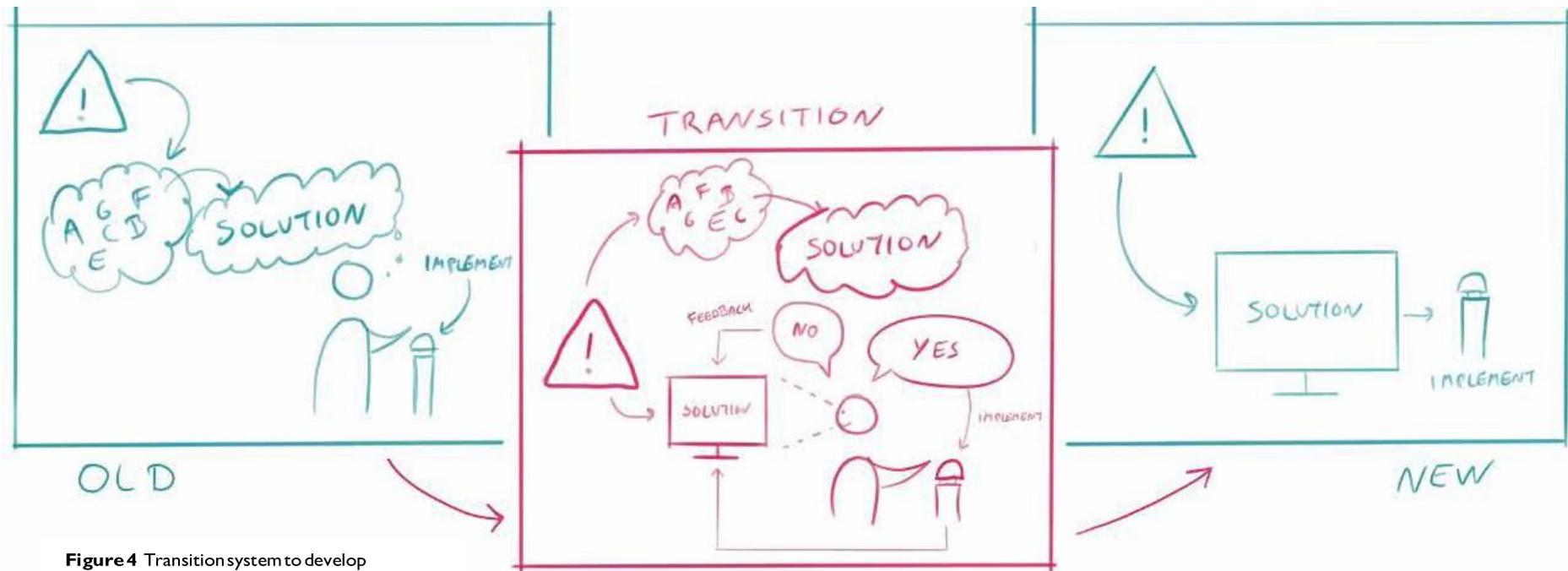
Figure 4 Transition system to develop

Strategic complexity

Part of what makes the mission of AT difficult is that the the company must keep running; flying airplanes. To ensure this, the 'old' system has to keep running to secure the continuity of the airlines' operation. Only when the 'new' system is fully able to ensure delivery of operations can it be switched. This in turn means that the new system must be able to handle all the complexities of what the operational managers currently do drawing on their experience.

To develop the 'new' system a tactic is chosen where the software is run alongside the operational manager (Figure 4 - middle). When a situation occurs, the software provides an advice. The operational manager can then compare this advice with 'his' solution. If he finds his solution is better, he provides feedback for the team to make the software more advanced. If he finds the automatically generated solution is better he can implement the solution.

When a Schedule-Tool-generated solution is better, it means that the software has found a way to save more cost than the solution of the manager. Only when the solution is implemented (by the manager) and becomes 'the new reality' does this hypothetical value translate to actual monetary value.

To continue the development of the software it is important to justify FLYCO's investments in the program with the monetary results of the software.

Schedule-Tool team task

After a year of development Schedule-Tool is now at a point where it can generate usable solutions. The next phase of the project is therefore to make the product more robust, advanced, and usable by its users. This is called the 'productionalizing' phase of the project; the aim is to make the software part of the day-to-day work of flight schedule managers.

In order to make the software more advanced and translate its hypothetical value of its solutions into actual value, the Schedule-Tool team is dependent on feedback and actions (implementation) of the users of the software. Therefore, the task of the team is to extend itself towards the 'old' system, collaborate with users, in order gradually shift the operations into a new era (Figure 5).
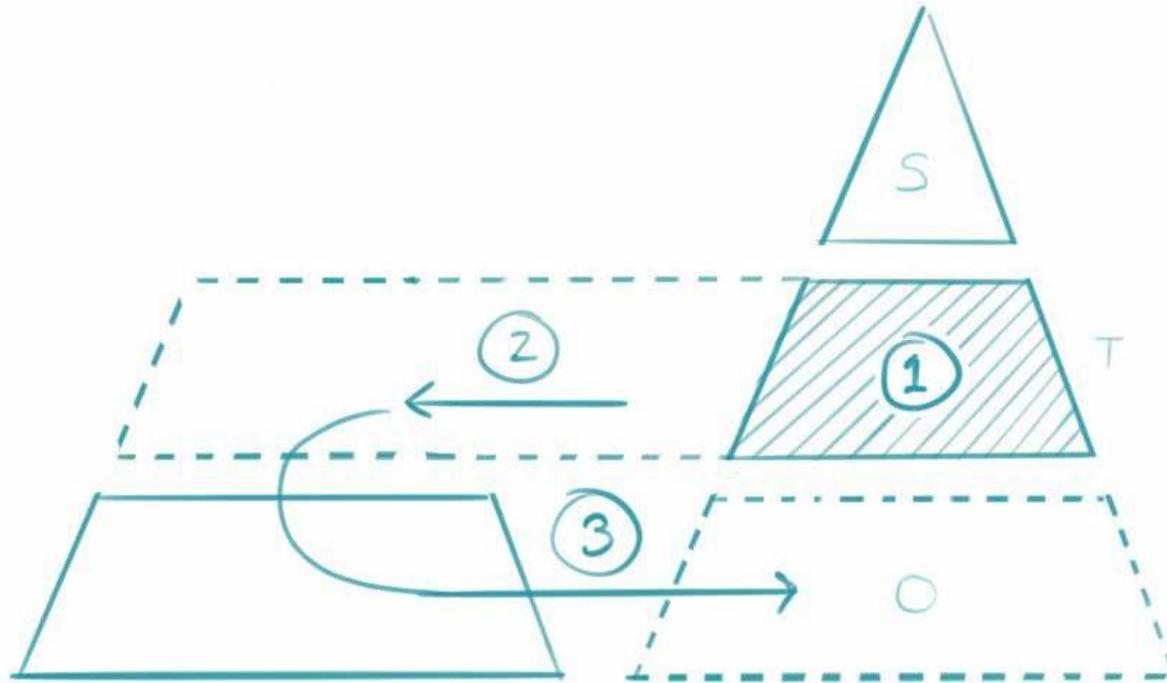

Figure 5 Team task

Agility

In developing and implementing this tools this product team needs to make decisions on how to develop the product. One way to ensure successful delivery of this project is to revert to traditional project-and process management techniques.

In an experiment to reduce management attention (thereby increasing the 'scalability', the Schedule-Tool project team was given more autonomy to make decisions on how to develop the product . This means that the team should be able to set its own goals and act

independently on reaching that goal, but still adhere to the team task and align with corporate strategy to transform (part of the) airline operations.

Problem definition

The challenge of this project is to solve the problem of alignment between the team and corporate strategy. Firstly to be aligned as a team with corporate strategy (step 1, Figure 5), and secondly to stay aligned with strategy while performing as a team (step 2, Figure 5).

The challenge the team faces is to balance between the needs of the users (desirability), and the needs of the corporate strategy (viability) and technological possibilities (feasibility). In this sense the challenge the team faces is similar to what a designer does; balancing between desirability, viability and feasibility. Designers are also adapt at switching between many different stakeholders, similar to what the Schedule-Tool team has to do to productionalize their product. Lastly, design is always oriented at using the problem understanding to creating a concrete solution. A solution that balances the needs of the stakeholders, and showcases its value.

Research question:
How can (strategic) design be used by the Schedule-Tool team to create alignment between the team and corporate strategy? Empowering the team to make conscious strategic decisions about the scope of their project

Assignment:
Design tools and methods for the Schedule-Tool project team to align with corporate strategy

Scope

Research scope. For the research of this project the project team (Schedule-Tool) and immediate context around the team are taken into account to build a complete understanding of the challenges of the team.

Design scope. The design of this project the scoped to the Schedule-Tool team. This means the design is not created for the department, partnership or individual team-members.

Figure 7 Research process

Research approach

To study the problem I combined the Research through Design methodology with ethnographic research. By combining interviews, observations, and 'design interventions' I developed a better understanding of the challenges, moving from explicit, to observable, to tacit to latent knowledge (Visser, Stappers, Van der Lugt & Sanders, 2005).

The research was conducted in two cycles (Figure 7); one for the ethnographic research (cycle 1) and one for the design interventions (cycle 2).

In the first cycle I combined observations from 96 meetings with 12 formal interviews, and many informal conversations with team-members. Combined with literature study the results of the first cycle provided a foundation for *design interventions*; the second cycle of research. These *design interventions* are part of the Research through Design methodology (RtD), by Stappers & Giaccardi, 2017). This methodology stipulates that the act of designing can be used generate knowledge. 19 interventions were designed and executed.
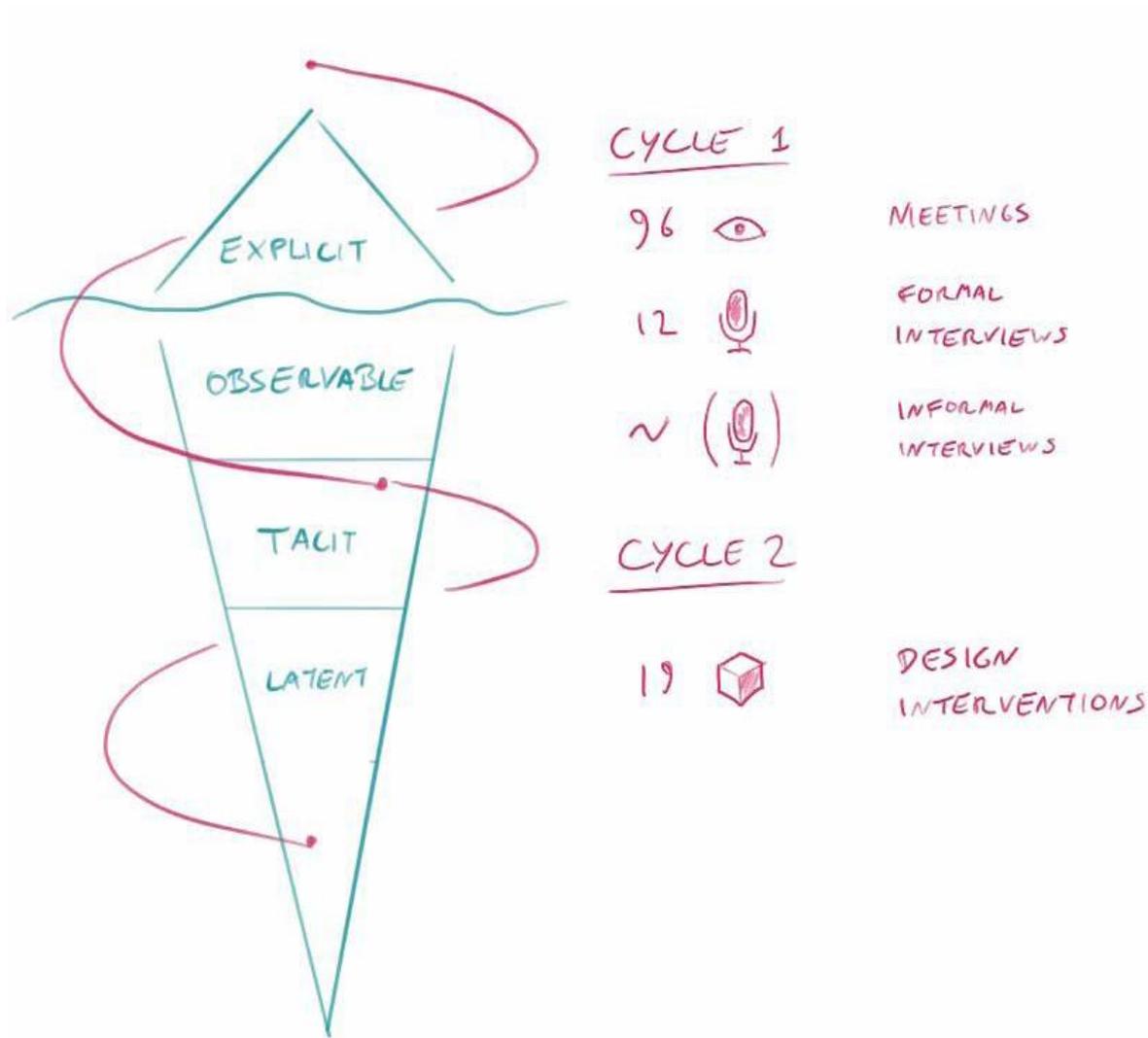
Discover

discover

define

develop

deliver

To understand the problem I decided on taking the perspective of the team as a starting point, in order to design a solution for them. Part of the project is not only align the team with corporate strategy once, but to enable them to stay aligned to corporate strategy. The logical next step for me to take was to say that the strategy has to be part of the way of working of the team. In this case, this product team is self-managing. To understand the product team I developed a theoretical framework for self-managing teams, presented in chapter 2. Chapter 3 presents an analysis of the team, and closes by reframing the initial problem.

Chapter 2:

Theoretical framework

Part of this particular team is that the team has increased autonomy, in an experiment (see also: introduction). To design a sustainable solution for the team it is necessary to understand the dynamics from a practical point of view (chapter 3), and from a theoretical point of view. This chapter introduces a framework designed to understand the dynamics of the team. It draws on a literature review on self-managing teams, team dynamics, and organisational culture and expert interview.

What is a self-managing team?

A team without a traditional project manager is often called a self-managing team (Moe, Dingsøyr & Dybå, 2010). Its primary (theoretical) benefits is increased organizational learning and flexibility, decision making in front-lines and full use of employees intellectual and creative capacities. (EX1[1], Wageman, 1997). The defining characteristics of self-managing teams are its freedom and ability to organise work (Hackman, 1986, Langfred, 2007), taking responsibility for the work as a team, monitoring own performance and the capability to adjust internal organization based on developments outside the team (Wageman, 1997).

What makes self-managing different from more traditional project teams is that they are expected to share authority of decision making as a team (Moe et al, 2010; Wageman, 1997). This in contrast with traditional project management method that delegate most of the decision making power to one individual (project manager).

Thus, a self-managing teams decides for itself on its objective and actions to take to reach that objective.

What does a team need to manage itself?

Direction. A team needs to have a reason for the team to exist; a goal or assignment (EX1; Wageman, 1997). The first ingredient of the team is the direction of the team, which can be split up in the *objective* and team-*authority* to act on the direction (Wageman, 1997; Langfred, 2007). For a self-managing team it is important that the objective is only attainable through teamwork (Wageman, 1997). The objective should be ambitious, but not ambitious enough to be impossible (Langfred, 2007). Secondly, the team should be mandated to take actions to achieve the objective (Wageman, 1997).

Assets. The second element are the actions needed to reach a certain objective. These actions require the use of *assets*; resources like skills, tools and time, (Wageman, 1997) but also *information* to decide on which actions to take (EX1). Skills, tools and time should be aligned with the objective of the team; together they have to add up towards the objective. The available information refers to the understanding of the team(-members) about the organisational context and the potential impact of their actions (EX1). For example, if a team decides to develop a new feature, it is important to know whether or not other teams are working on the same problem as prevent

unnecessary double-work.

Teaming. Thirdly is the team itself; decision making (on what actions to take) is shared across the group; the group should perform 'as one'. This requires the forming of group *norms* and a method of *communication*.

The element that combines team-members is collaboration. If two people collaborate, action 1 and action 2 together will yield a result. In order to achieve that result the actions must complement each other (Figure 5). Doing this requires alignment between the two individuals about the desired result and the actions required to achieve it; the team-members have to agree on the objective and de coordination of their combined actions. This agreement does not come out if thin air; it requires communication . Communication consists of both sending and receiving information; if the received information cannot be interpreted it is worthless, thus rendering the need for a common language (Figure 6). Language is a method of communication that provides structure to the sending and interpretation of information.

Norms, "a standard or pattern, especially of social behaviour, that is typical or expected" (Oxford Dictionary of English) functions to align expectations about the

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1　　　EX1 refers to the expert interview . The abbreviation TM refers to Team-Member interviews

behaviour of different group members (Tuckmann, 1977; Bijlsma-Frankema, 2001). As such it enables team-members to simulate (or 'predict') the expected result when an action is executed by another team-member (Bonebright, 2010). The definition of norms strengthens and is strengthened by the process of group cohesion; a process in which bonds are created between the members of the team as well as the team as a whole (Tuckmann, 1977). This process stimulates the development of trust in the team, defined as "the willingness to be vulnerable to the action of another party" (Mayer, Davis & Schoorman, 1995). Trust and group cohesion are important ingredients for successful collaboration of the team (Bergema et al., 2011; Hakanen & Soudunsaari, 2012). Similar to norms, the definition of roles and responsibilities in a team allow team-members to reduce ambiguity around the behaviour of other team-members (Wageman, 1997). Closely connected to the skills of an individual team- member a role is the "the function assumed or part played by a person or thing in a particular situation" (Oxford Dictionary of English). Dependent on the situation roles can change, but they introduce a "if this then that"-logic into the 'simulation' of actions (Lüscher & Lewis, 2008).

Motivation. The fourth ingredient is the motivation of the team(-members); without a sense of ownership and personal development the team is unlikely to complete its objective (Wageman, 1997). The team-members should experience ownership of the goal; defined as "the sense that personal success is directly tied to project's success" (Ammeter & Dukerich, 2002) and, ideally, in line with the individuals values and principles (Westrum, 2004). "The assumption you are allowed to make is that when people experience ownership (...) a different relation emerges between what needs to happen and the person." (EX1). This unearths the second element of motivation; space for personal development; "the process by which a person's character or abilities are gradually developed" (Oxford Dictionary of English). Personal development is the individual 'reward' for team- members providing long-term motivation to collaborate.

Method. Lastly, the team needs a method; a 'recipe' to translate all these 'ingredients' into results (Wageman, 1997; Bergema et al, 2011). The definition of a method or process, introduces more structure into this the process of group decision making by defining "a particular procedure for accomplishing or approaching something" (Oxford Dictionary of English); thus outlining the sequence and timing of repeating events. Characteristic for self-managing teams is their ability to adapt their 'way of working' to changing circumstances (Wageman, 1997).

Teaming framework

Combined these elements form the 'teaming framework' (Figure 8). The following paragraphs discuss each of the ingredients in greater detail. Each of the ingredients is defined in Table 1.

Group	Element	Definition
Direction	*Objective*	**The object of an ambition or effort; time-bound, team-task and internalizable** clearly defined goal that is time-bound, inter-nalizable and is a team-task
	Authority	**The right to act in a specified way, delegated from one person or organization to another.** explicit and clear team-understanding about the authority to act.
Assets	*Resources*	**Assets and tools that enable the individual to perform an act** more than enough resources available to achieve the goal in the allotted time, and a clear team-understanding of availability to resources.
	Information	**Available facts and knowledge to understand and predict the impact of different actions in the (dynamic) context the team operates in** high situational awareness and ability to identify lack of information needed to make informed decisions
Teaming	*Communication*	**The imparting or exchanging of information by speaking, writing or using some other medium, functioning to align shared understandings required to make decisions as a group** structured and frequent communication of the group, aided by a common language shared across members of the group
	Norms	**A standard or pattern, especially in social behaviour that is typical or expected" to align expectations about the behaviour of different group members** clearly defined norms for the behaviour of group members and the group as a whole
Motivation	*Personal development*	**The process by which a person's character or ability are gradually developed** clear process and available time for personal development
	Ownership	**The sense that personal success is directly tied to the project's success** personal connection and feelings of responsibility to the goal (and project success) on the level of individual members as well as the group as a whole.
Method		**A particular procedure for achieving something, functioning to introduce structure behaviour of the group by outlining sequence and timing of repeating events** clearly defined method internalized and embraced by all the members in the group.

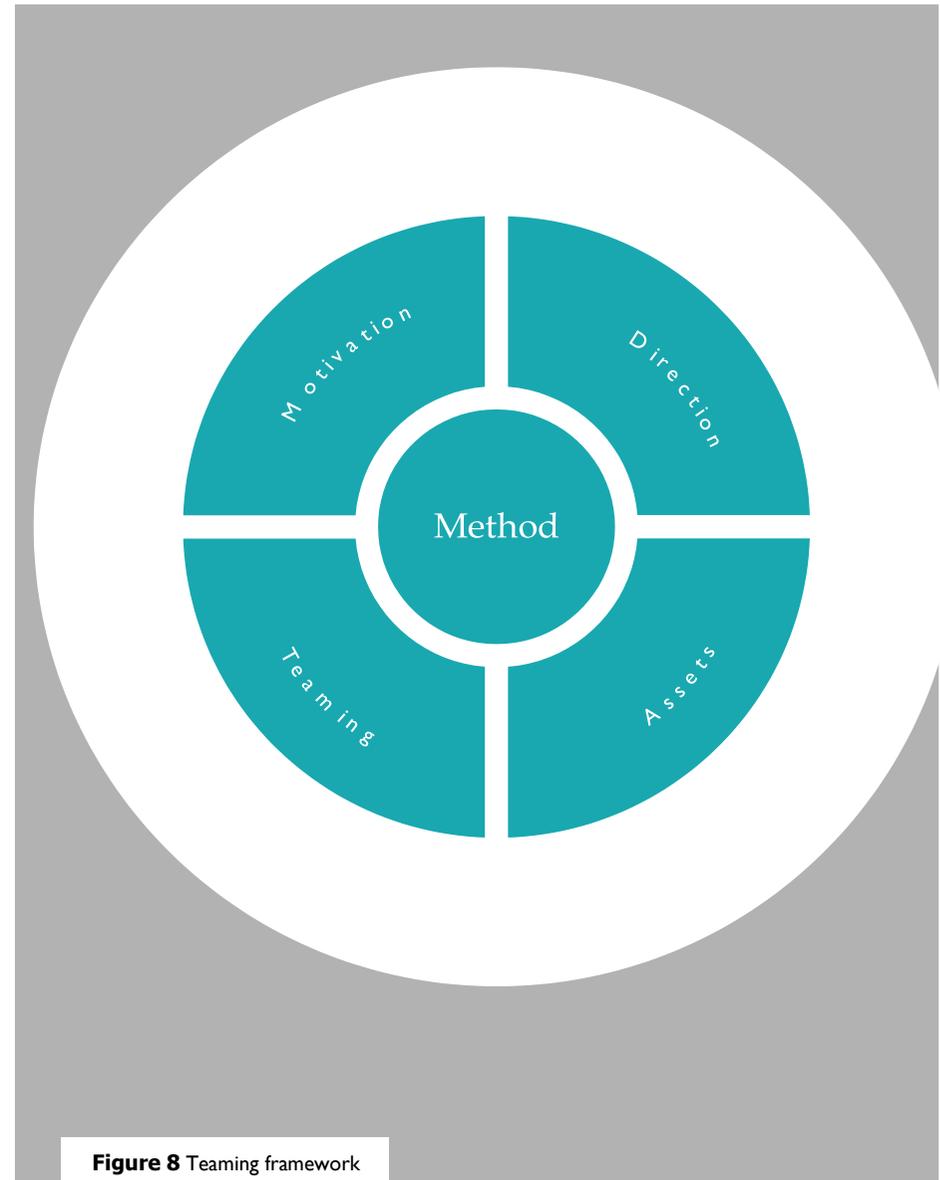**Table 1** Teaming framework - definitions

Figure 8 Teaming framework

Organisational context

A self-managing team is in its performance in large part dependent on the context around the team (Moe et al., 2010; Bergema et al., 2011). The organisation provides the 'backbone' for the team by outlining the authority (organisational structure), flow of information and assignment (objective) of the team. The culture of the organisation also provides a backbone for the language of the team (communication).

An understanding of the organisation is important for the team as it provides "a window of improvisation" (EX1); it allows the team(-members) to understand when they overstep their bounds, thus enabling them to understand when it 'safe' to experiment (for example with new ways of working). The organisational context is comprised of six elements, stacked in a pyramid (Figure 9). At the bottom lie the organisational principles; "outines of how managers [employees] should be behaving in the pursuit of the organisations goal" (EX1). The principles provide a foundation for the mission of the organisation; the long term, often unattainable, 'assignment' of the organisation. The mission outlines the 'raison 'd être' (reason of existence) of the organisation; the reason why a group of individuals comes together and achieve something through collaboration.

Combined, the mission and principles create a platform for organisational culture and strategy. Organisational culture makes up the pattern of responses to problems and opportunities (Westrum, 2004) based on underlying beliefs, values and attitudes (Schein, 2010). Built on this culture are the language and behaviours of members of the organisation. The strategy functions to translate mission of the organisation into a vision, set of actionalizable goals and structured process and structure for the organisation to attain those goals. In outlining concrete plans the strategy builds on the strengths of the culture, incorporating them into the process and organisational structure of the organisation.

The mission, strategy and culture are subsequently translated into a vision and organisational structure that allows the organisation to act on its goals. In innovation programs the goal of an organisation often takes the form of a vision; "a mental image of what the future will or could be like" (Oxford Dictionary of English). The image becomes a boundary object (Star, 1989); its concreteness facilitates understanding and "transformation of knowledge" across team-members (Carlile, 2004). To be able to act on the mission an organisation usually adopts some form of an organisational structure that outlines the flow of authority and information within the organisation (Mintzberg & Westley, 1992).
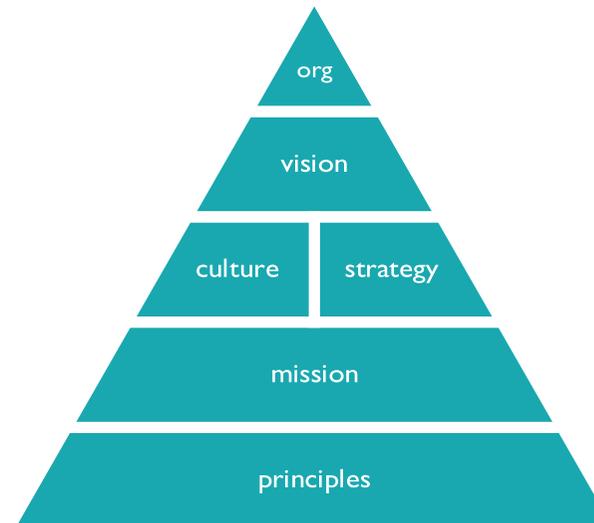

Figure 9 Organisational context pyramid

Conclusion:

An effective self-managing team requires a direction that is clear, challenging and time-bound. Secondly, the team must have the resources and information necessary to contribute to the team-goal. Thirdly the team needs to be a team; with a common language and norms. Fourth, the team-members need to be motivated to contribute. Lastly, the team needs an agreed upon on way of working. To perform as a team all team-members must share an understanding of the organisation the team is part of.

Impact on design challenge:

Design for all ingredients
Direction, assets, teaming and motivation interact and should be in balance with each other for the team to be able to be effective. This means that this interaction should be taken into account when designing for the team.

Design for organisational clarity
The performance of the team is in large part dependent on the organisation around the team. Although design of this context might not always be feasible, it is important that the team has an unambiguous understanding of the "window of improvisation" of the organisation.

Chapter 3:

Problem analysis

Using the teaming framework introduced in chapter 2 I build up a picture of how well the team was working, and where the performance of the team could be improved. The main method of data collection was to interview all team-members in a formal setting. These interviews were recorded anonymously and are reported using a TM (team-member) plus a number (#). Next to the formal interviews I followed the team around to every meeting for two weeks, taking observations. To build an accurate understanding of the team this analysis was completed with many notes of informal conversations and observation made throughout my time at the department.

Strategic clarity

Interviews with team-members and informal interviews with airline consultants indicate the princples, mission and strategy of the department are not clear (TM1, TM2, TM6, note). "The objectives, the vision on the value proposition of this partnership in the market, the strategic as well as the commercial impact, that needs to be communicated (...), which has not been done. (...) This forms a problem for the future of the department." (EX1).

Interventions

This lack of strategic clarity becomes most apparent in urgent requests. Occasionally the team intervenes in the team, delivering an urgent request, pushing the team to focus on the strategic value of the product, rather than adding features. These requests are a result of the strategy of the department. The product is the "flagship"-product of the department; promises have been made about when the product will provide a return on investment.

To maintain department credibility it is therefore important that airlines' senior management can be presented with results. As explained in the introduction, to show the actual value of the software the team is dependent on the action of flight schedule managers. This creates a situation in which the team has to listen to the users for feedback, but is also dependent on the users to show the value of their product. This means that when users request new features, the initial reaction is to develop these features in order to please the user. However, at some point this will stop working. At some point the team has to push back and really question whether the requested feature is necessary or not. This evaluation requires the team to understand exactly what they are building and how much time is available to build it.

These interventions form a contrast with the enthusiastic reactions the team experiences from working with users. Users show up for product demos, are happy with the progress and continue to request more features to make the software even more usable. However, the requests are negative in tone. This creates a tension in the team, leaving confusion about what to do (note). In the context of self-managing teams this behaviour also undermines the ownership of the team (Wageman, 1997).

Team direction

For the team the lack of strategic clarity means a lack of vision on the product they develop. "I have the impression we do this for one week and then another thing the other week" (TM4). The lack of a medium-term vision for the product is something the team misses (TM2, TM4). While the lack of an explicit product vision is experienced as annoying, another problem the team faces is the lack of an explicit vision on the product system that the product is going to be part of. This lack of the vision has direct consequences. The team feels that in order to successfully implement the product they need to make the product code 'robust'. This requires the team to make technical decisions about the structure of the code; for this, a good understanding of the software- architecture of the product system is necessary. When pressed about who should take the lead in creating this vision the team is divided. Some look at management, indicating a reactive attitude. Others see it as their responsibility, not as 'the product team', but 'product-system team' to develop this vision themselves. This debate around who should create the vision indicates something else; unclarity about the scope of responsibilities of the team. The team is called product team, indicating that they are a product team, but interviewees also mentioned they are referred to as 'the product system team'.

Teaming

Different team-members have different ideas about the maturity of the team. TM3 says it's a full blown team, whereas TM1 disagrees stating that the team is still in the "norming" stage of team-building (Tuckman, 1977). To remedy that, amongst other things, a more explicit discussion about the roles in the team is neccessary (TM1). The team largely agrees that a strict structure of roles like in the first year of the project is not desirable (TM1, TM3, TM5), but "it would be good to discuss team-member responsibility explicitly" (TM1). The team experiences a lot of trust and freedom, saying that they feel like an autonomous team.

Method

The team seems to be looking for a way of working. There is consensus about the necessity to find a more structure way of doing things, but it appears to be an unstructured effort. The lack of an (explicit) way of working causes problems. Team-members indicate they work on a week-by-week basis, without a real plan for development. Meanwhile, productivity is impacted with ad-hoc requests (TM2, TM5) as well as many meetings (TM2, TM4). Roles are not clear, nor are they explicitly discussed in the team. One role that the team-members have clear thoughts on are the responsibilities of the product owner. The team agrees that the role of the PO should be to streamline stakeholder management. "Ideally, the PO will shield you from direct nagging with stakeholders" (TM2). Additionally, the team agrees that it's the PO's responsibility to set priorities; "We spend a lot of time on figuring out what we're going to do and what the priorities are, what is important, this could probably be done by a product owner" (TM4). When prompted during interviews, it becomes clear team-members have thoughts about the functioning of the team, but these are not discussed regularly. A more explicit discussion about the roles and functioning of the team could benefit in bonding as a group, and thereby performing as a team.

Conclusion:

The team has been shifted to the 'left' (Figure 10) compared to the original team task of only *extending* to the left (Figure 5 on page 10).
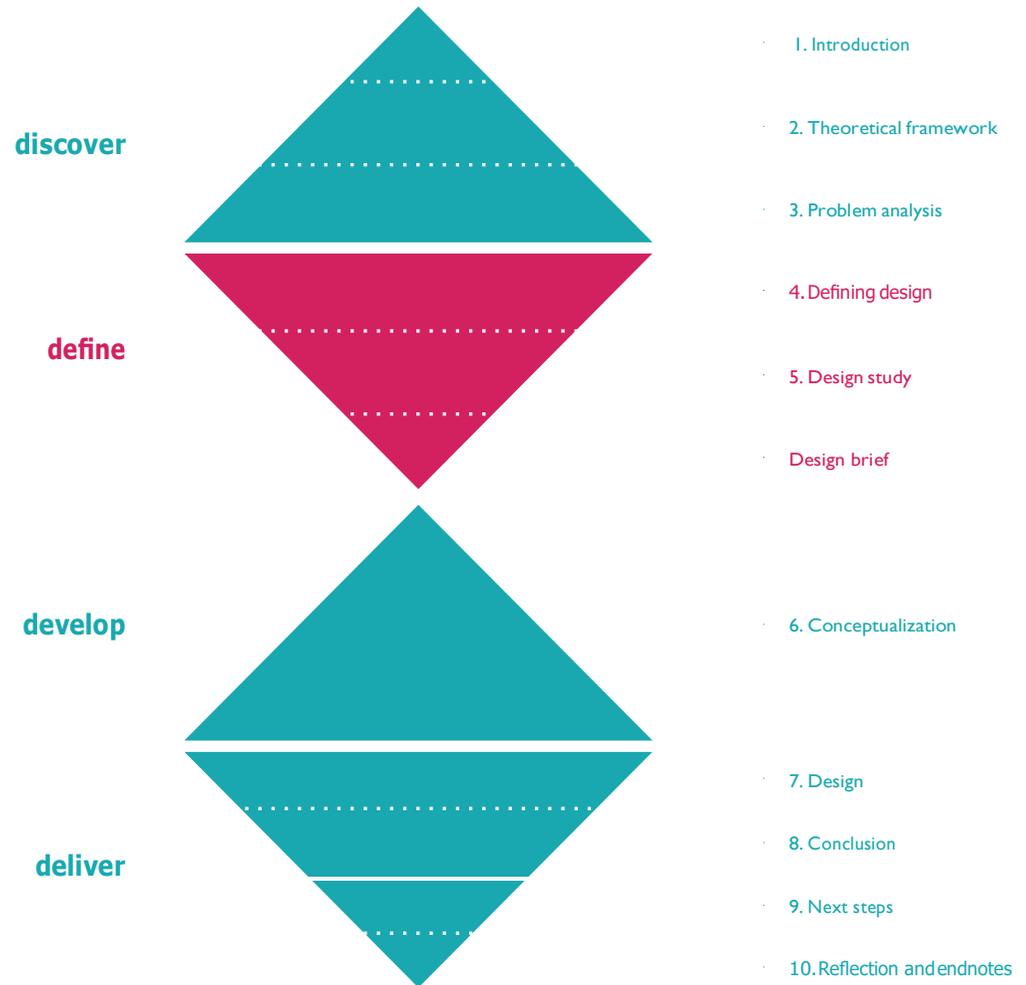
Impact on design challenge:

Design a north-star
The team needs a clear understanding of their objective in order to evaluate their progress

Design a compass
The team needs to incorporate their objective as a key part in their way of working to continually be reminded of the objective and the progress

Figure 10 Problem definition

Define

discover

define

develop

deliver

Chapter 3 concluded that the team has moved too far left. The design challenge therefore is to move the team 'to the right', and enable the team to stay aligned with strategy. In this part of the report the problem is explored further through 'design interventions'. These interventions were done to study possible solutions to problems identified in chapter 3. To find these solutions and design the interventions first a literature study was conducted to define design, reported in chapter 4. Chapter 5 goes on to explore challenges through 'design interventions'. All the findings of chapters 2, 3, 4 and 5 are then combined into a design brief.
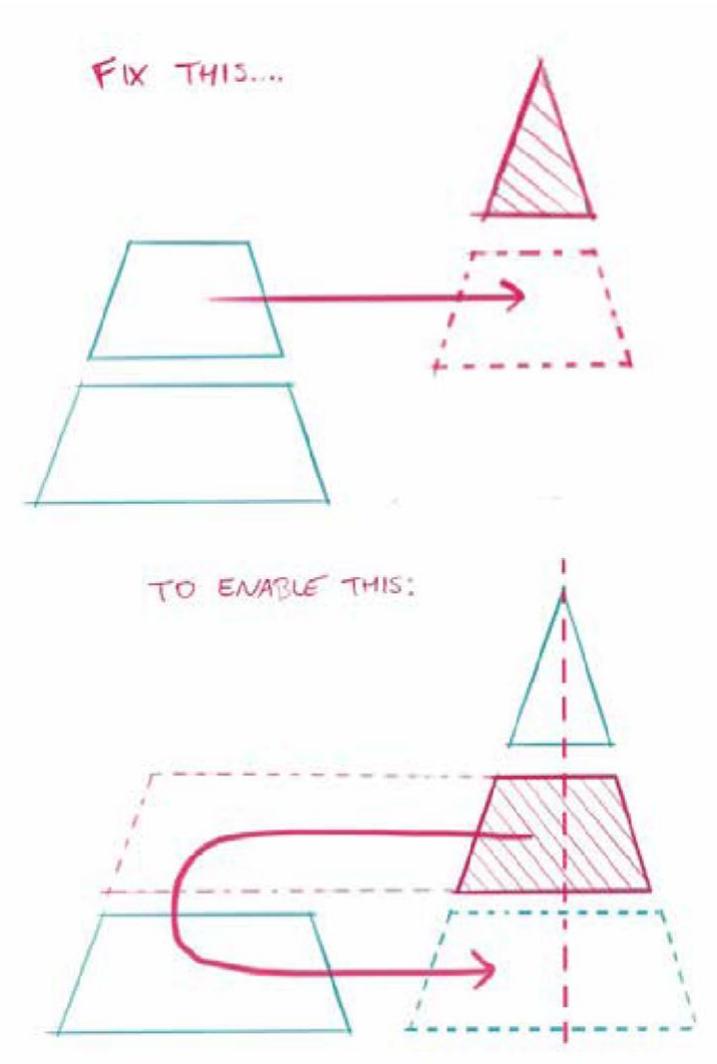
FIX THIS....

TO ENABLE THIS:

Chapter 4:

Defining *design*
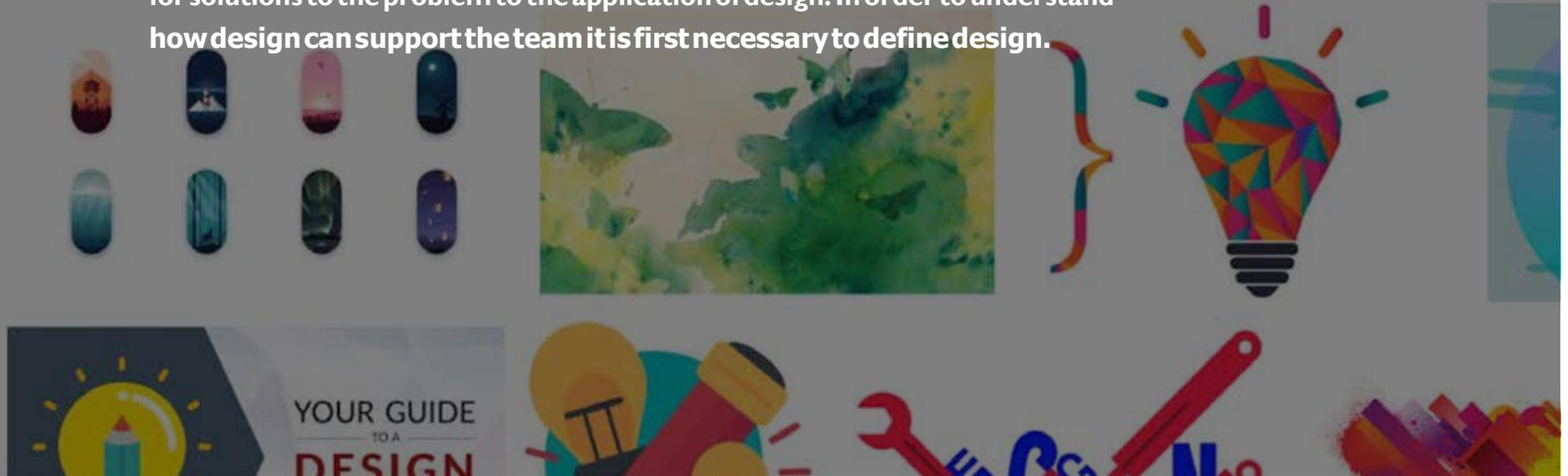
In the problem definition a parallel was drawn between the challenges of the team and the challenges of a designer. As a result this project limited the 'search area' for solutions to the problem to the application of design. In order to understand how design can support the team it is first necessary to define design.

Design as creation

Design seems to be about creating new realities (Bergema, Kleinsmann & Valkenburg, 2011). This is done through physical artefacts like drawings, prototypes and products (Stevens, 2013) or can be more abstract through the creation of meaning (Verganti, 2009). Design is not black and white; good or bad, the design does not offer an absolute solution to a problem, but "can be judged on a sliding scale of better or worse relative to the needs of the stakeholders" (Dorst, 2015). This ability of design to satisfy the needs of multiple stakeholders is supported by authors introducing the process of design as a way to solve wicked problems (Brown, 2008; Gudiksen, 2012; Dorst, 2015). Being unstructured, ill-formulated, confusing, involving many different stakeholders with competing interests wicked problems are complex to understand and to solve; the understanding of the formulation of the problem changes with each iteration of a solution (Buchanan, 1992). In this sense design becomes more than the artefact itself; it is the process that precedes the creation of the artefact (Dorst, 2015; Prud'homme van Reine, 2017; Hertenstein, Platt, Veryzer, 2012).

Design as creating

The design process is characterized by its iterative nature; with designers first studying the problem, ideating solutions and testing solutions through prototypes, after which the studying, ideation and prototyping starts again (Brown, 2008). Through this process the designer simultaneously develops his understanding of both the problem and the solution (Dorst & Cross, 2001). These iterative loops allow the designer to reflect on how (elements of) his design relates to the problem (Schön, 1983). Reflection seems to be an inherit part of the process of design (Reymen, 2003; Johansson & Woodilla, 2012)

Design as understanding

Some authors pose the idea of design as a research method (Stappers & Giaccardi, 2017; King, Parmar, Liedtka, 2012; Gudiksen, 2012). Not only the act of studying the problem contributes to the development of knowledge; also the act of designing a solution is valuable in generating knowledge: "The act of designing, of making, requires the designer to face several confrontations; between competing or conflicting background knowledge, between theory and technology and between dream and reality" (Stappers & Giaccardi, 2017). Characteristic of this type of research is solutions "emerge from collecting first-hand data through action (King et al., 2012).

Design as reasoning

Following the design process the designer follows a type of reasoning; design abduction, that reasons from the desired effect (value to be attained) back to the root causes and working principles of achieving that effect (Dorst, 2015). Through this type of reasoning the designer develops a "frame" through which the problem and solution can be understood. It allows the designer to circle around a paradoxical problem (Dorst, 2015). Prud'homme van Reine (2017) also argues that the power of design thinking seems to be the harmonizing of tensions "between seemingly opposite ways of thinking". In this type of reasoning design almost moves towards a mindset. Studying the the attitude of designers Michlewski (2008) found five characteristical attitudes for designers. The first, 'consolidating multidimensional meanings', involves the ability of designer to "look at a situation from a wide variety of perspectives", similar to what Dorst (2015) describes as a framing process. Enabling this shift in perspective is the second attitude; 'engaging personal and commercial emphaty'. This attitude allows the designer to empathize with his users and clients, coming to a solution that is desirable, feasible and viable (Brown, 2008). In exploring the solution the designer builds on the third attitude; 'creating fundamental value through exploration', similar to the co-evolution of problem-solution (Dorst & Cross, 2001) and the use of the act design as a way to generate knowledge (Stappers & Giaccardi, 2017). In his process the designer relies on his ability to 'think through drawing', captured in the fourth attitude 'engaging polysensorical aesthetics'. This type of thinking is similar to the use of a boundary object to facilitate discussions (Stevens, 2013). As a fifth, there is the attitude 'creating, bringing to live' (Michlewski, 2008).

Defining *design*

For this project design is defined as the combination of design as creation, design as creating, design as understanding and design as reasoning:

Design is defined as abductive reasoning supported by an iterative and experimental process that integrates structured reflection to create a concrete artefact that delivers a functional solution to a problem

The value of design is created by :
- Developing solutions to paradoxes by harmonizing seemingly opposite ways of thinking through the process of design abduction
- Developing fresh perspectives on the solutions to wicked problems
- Developing fresh perspectives on the understanding of a wicked problem and its context
- Creating a concrete solution to a problem

Design for the team

How might design be used *by the product team* to create alignment with corporate strategy? Reviewing literature on design I identify three uses applications of design that might benefit the team not only to align with corporate strategy, but also to *stay aligned*:

Explicitness. Designers *create*, whether that is a drawing, prototype or final product; the act of making things explicit facilitates a discussion. The first application of design could be the use of a design artefact to clarify the strategy of the department. However, the principle of explicitness can be applied in other situations as well. For example in making explicit and concrete the objective of the team, or the system vision the product will become part of.

Empathy. Designers apply empathy for their users, as well as empathy for the commercial aspect of their designs in order to come up with desirable, feasible and viable solutions. Viewing a problem through different 'perspectives' might benefit the team to really try and understand the needs of users, but also the needs of management. This way the team can create a 'big picture' of the different stakeholders, allowing the team to understand what is going on (ie. lowering the chance of unexpected interventions) and take conscious decisions on what next steps to take.

Process. Designers use an iterative process not only create solutions, but also to understand the problem. A similar iterative process in which the team creates and reflects on progress could benefit the team to develop skills of empathy, and become more conscious on how to develop the product further. The iterative nature of the design process forces the designer to continually set goals and compare the results with expectations. Through reflection on this process the designer develops a better understanding of the problem and the solution. In effect, the designers develops a better understanding of his users and other stakeholders; together they form the 'field' of the problem. As a result, the designer develops empathy.

Impact on design challenge:

Design for explicitness
Concrete artefacts (boundary object) can facilitate the understanding of abstract subjects. Design concrete artefacts to create clarity, but also try to stimulate the creation of artefacts by team-members themselves to make things explicit.

Design for reflection
Taking inspiration from the design process, the team can start to develop skills in empathy by sticking to an iterative process that 'forces' the team to reflect on progress, and as a result developing an understanding about the users and stakeholders of a problem

Chapter 5:

Design study

Chapter 3 concluded that in the eyes of the team the strategy of the department is not clear and understood; the problem of strategic clarity. In this chapter I provide a more in-depth analysis of these challenge. To understand the problem and to experiment with solutions I designed interventions, inspired by the *design opportunities* (chapter 4), and triggered a number of discussions across the department.

Strategic clarity

As a tool for analysis the department is modelled as a "bubble" operating in a large hierarchical corporate structure . As the team moves into the next stage of product development more intensive contact outside this 'bubble' is necessary to successfully implement products. The successful implementation of products, in turn, is necessary for the success of the department. The context around the department consists both of a complex corporate organisation as well as an external market.

To make decisions as a self-managing team, the team requires sufficient information to make informed about their work (Wageman, 1997) , but the complexity of the corporate context around the department makes it impossible to always be 100% transparent. Occasionally information is too confidential, requests are too urgent. This indicates the need for an (occasional) hierarchical structure within the department; a structure of semi- self-managing teams. For the product team to function optimally they must be aware of the strategic sensitivity and complexities of the environment they operate in.

Strategic clarity interventions

Following the findings of the preliminary research several interventions were executed with the team. These interventions attempted to resolve immediate roadblocks (vision of product system) and to challenge and facilitate creating strategic clarity. Through interventions and discussions I challenged team members

and members of the department to start a conversation with each other about team norms. Slightly deviating from the original project scope, an intervention was done where all the members of the department were given a workshop in sketch-noting in an attempt to the first outline of a common language, not just within the product team, but also in the department around the team. Team-members were challenged to be pro-active.

Product system vision. The team was challenged to resolve the roadblock of the lack of a vision on the product system. A vision was created and presented to a number of teams, resulting in weekly alignment-meeting between teams working on the product system. I found that the use of a concrete vision could trigger discussion and alignment between members. Furthermore, I found that when challenged the team-members were pro-active in creating a vision and resolving their roadblock.

Townhall meeting. To resolve unclarity around direction, organisational structure and resolve approachability a 6-weekly meeting was proposed and organised. Designed as a platform for members of the department to ask questions I found that the first meeting was confrontational, but effective in triggering a discussion about organisational culture.

Challenge the team. Part of all the intervention was the intervention to challenge the team to be pro-active in making things explicit, and discussing things more openly in order to improve communication, group cohesion and ultimately team effectiveness. I found that when challenged the team-members are pro-active.

Sketch workshop. In an attempt to create the start of a common language across the department a series of workshops for all members of the organisation was organised. In these workshops participants were taught the basics of visual note-taking. I found that this visual language was later slowly adopted across the department, but not the product team subject of this study. This could be because of 'incubation'-time (change doesn't happen overnight), or because of other reasons. This is an opportunity for further research. However, I did find that a fun group activity like the sketch workshop positively contributes to group cohesion.

Team performance

The second set of challenges revolves around the performance of the team. Team-members report that they 'drift' from week-to-week, without a clear objective, or way of working. Next to this, the team-members have different ideas about group development. Observing the team for a few months I conclude that the team seems to be stuck in the "norming" stage of group development. Although team-members regularly talk to one another, it is not apparent to me that they behave 'as a group'. The challenge I observe is that the team never really discusses the *norms* of the team; the 'rules' that specify how they should behave, or who is responsible for what. Underpinning the process of group cohesion are the two roadblocks of an *unclear objective* and *unclear way of working*:

Objective. Each team-members has an idea of the final product they will deliver, but the 'vision' has never been made explicit. Team-members miss this vision. The challenging thing about not setting a goal is that you never know when you have completed your goal. In a team-setting the lack of a goal can make it difficult for team to *align as a team*; each member build according to their idea of the goal. Therefore, I hypothesise that creating an explicit team-goal (time bound, concrete, challenging)

can not only create focus in product development, but also a create a shared sense of purpose; a platform to create team *norms*.

Method. The team does not seem to have (or stick to) an agreed upon way of working. Responsibilities are unclear, and as a result the team experiences a lot ad-hoc requests, and visits meetings with the entire team; clogging up productivity. More of a challenge is that the lack of a method causes the team to not set clear goals, or evaluate progress and position of the team. The team has the 'assets' to do the work (skills, tools are present, discussed in endnotes), but no recipe to mix the ingredients together to create a dinner.

Team performance interventions

The core of these interventions was to stimulate group development; to establish a team identity. This was done by stimulating the team to adopt a structure in the way of working, and facilitating the articulation of a vision to guide the team.

Statement of direction. Together with the team a 'statement of direction' (Wageman, 1997) was created to create a concrete (short-term) objective for the team. The idea of this statement was appreciated by team-members, but the intervention showed that is has to be embedded in the way of working for the team to be effective. A second challenge in the use of the statement was to create the sense of ownership required for the tool to be effective.

Scrum. To structure the way of working of the team Scrum as a development methodology was introduced. It was found that the introduction of this structure improved the focus of the team, as well as stimulating discussions about roles and responsibilities of members of the team. Implementation of scrum was found to be challenging, with discussions quickly 'escalating' beyond the agenda of the meeting.

Conclusion:

In the short lifespan of the department the definite direction and organisational principles have not yet been made explicit. The dynamic nature of the corporate context around the department makes it impossible to be fully transparent about the information provided to the teams.

When challenged, the team-members showed a pro-active attitude to resolving roadblocks. Making things concrete (objective, method, product-service vision) improved focus as well as group cohesion. However, for the interventions to be effective the tools, discussions and method should be repeated and become part of the 'way of working' of the team.

Impact on design challenge:

Make objectives explicit
The use of a concrete (product-system) vision and *statement of direction* were considered useful and benefit the focus of the team when embedded in the way of working.

Embed objectives in the way of working
To be effective the *statement of direction* must be part of the way of working of the team in order for team-members to use it in making scoping decisions

Structure the method
A method improves focus and clarity around responsibility, but it is easy to lose track of the purpose of a meeting. In the absence of a scrum-master the team should be repeatedly reminded on the structure and 'rules' of the method in order for the method to be internalized and adopted. After this the method can be adjusted to the specific needs of the team

Schedule regular (team-)discussions
The townhall meeting showed that a conversation about team norms (or department culture) is useful, but should be followed upon regularly to be effective

Bring in some fun
The sketch-workshop showed that (informal) group activities are fun and contribute to group cohesion

Design brief

The problem to solve consists of two challenges. Firstly, the design must communicate the strategy in a way that is clear and understandable for the team (north star). Secondly, the design must incorporate the use of the strategy in the way of working of the team (compass).

Design challenge:
To create a design that communicates the department strategy in a clear way and supports the team in incorporating this strategy in the way of working of the team.

North star

The function of the "north star" is to clarify the department strategy and provide a "window of improvisation" for the team; so that team-members can understand their direction, authority and place in the flow of information. The strategy must be clear, meaning that it is understood by the team in order for the strategy to be used in product development.

Compass

The function of the "compass" is to support the team in translating the department strategy into team actions through a structured method. The method provides focus and clarity about role responsibilities. To develop skills in empathy the method must facilitate reflection on (the balance between) direction, assets, teaming and motivation.

Design criteria

The design should provide clarity in the structure:
The formal organisational structure (ie. the organisational chart that outlines who is your boss) provides clarity in evaluating progress and final say during conflicts. The organisational structure should further outline who is responsible for the personal development of individual members of the organisation.

The design should provide clarity about organisational principles:
The "house rules" of the department; the principles provide a black-and-white overview of what is ok, and what is not ok to do.

The design should provide directional clarity:
The mission, vision and strategy should be explicit to the extent that it is understood by all in the organisation. Its form should be explicit enough to provide guidance to the extent that members of the department can use it to judge whether a decision lies in the direction of the department.

The design should be internalizable:
For the direction to be used on a daily basis it should be simple enough that it can be internalized by members of the organisation.

The design should be believable, and therefore be realistic:
For the design to work on a long-term basis the design should instil a belief that will be followed by an action, which in turn will be followed by a result.

The design should be pleasant to experience:
To the extent that members of the organisation want to engage with the design.

The design should provide structure and predictability for the team:
Structure in sequencing and timing of events,

The design should facilitate the evaluation of objectives:
For team-members to set clear and time-bound goals and develop a shared understanding of the teams direction.

The design should facilitate the evaluation of available assets:
To evaluate whether objective and assets are still in line, and to develop a shared understanding of the means available to attain the goal.

The design should facilitate the evaluation of teaming:
To evaluate roles and responsibilities, functioning of the team as a whole and team-members individually

Ideally, the design should kickstart a discussion around organisational context:
The department is constantly in motion, creating a new type of partnership in a constantly shifting world. Everyone should feel owner of this mission, and everyone should be able to contribute to the "strategic" elements of the department.

Ideally, the design should allow for easy changes by its users:
The design should be flexible and adaptable to allow for changes users want to make as a result of changes in preferences or circumstances.

Ideally, the design should be something user are proud to use:
Ideally, the design functions as a 'aligning' element of the organisation, facilitating collaboration, ownership and pride in its members.

Develop

discover

define

develop
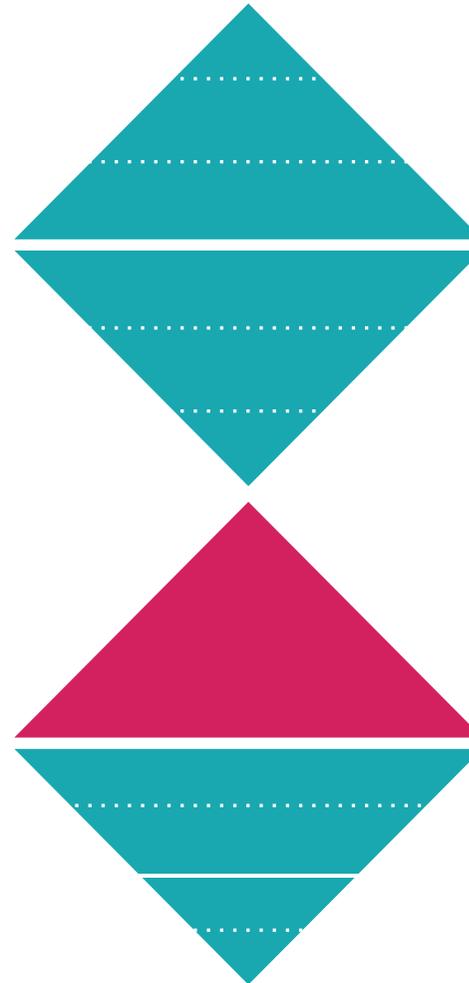
deliver

The define phase concluded with a design brief outlining the challenge to be solved; the design of a 'north star' and 'compass'. In the 'develop' part of the report a solution is designed. Chapter 6 introduces the design process and core ideas of the final concept. Chapter 7 outlines the final design.

Chapter 6:

Conceptualization

Having defined the problem and parameters of the design in the design brief I started conceptualizing solutions for the final design. Instead of coming up with different 'concepts' I decided to combine the best elements of the design interventions into a single system. In this chapter I continue on the metaphor of 'north star' and 'compass', introduced in chapters 3 and 5. I outline how I designed the solution. This chapter ends with a short essay on the metaphor of a symphony orchestra that help me to understand the challenges of the team and inspired the name of the final design.

The north star and compass

The previous chapters outlined the need for a north star (direction) and compass (tool to translate that direction into a movement). The north star and compass are based on the analogy of a sailing a ship. The north star provides a reference point, the compass allows the captain to navigate the ship; to move. This in turn triggers the crew of the ship to do their work; one man maintains the engine, another, cleans the deck, another cooks the food. All these crew-members start to work together because the ship can start to sail.

The same idea holds for the design of a solution to the challenges of the product team; create a destination, and the collaboration of the crew will follow. I set out to design a system that allows the team to set an objective and be able to navigate on this objective. Similar to the function of a north start (reference point) and compass (tool).

In the coming chapters I outline the design process of the north star and compass. For the design of the north star I introduce the concept of designing a boundary

object to facilitate discussion of abstract knowledge, and the techniques of branding to create such a boundary object. For the design of the compass I introduce the methodology of Scrum, reviewing the findings of design interventions (chapter 5) to create a methodology for the team to translate the north star into team-objectives.
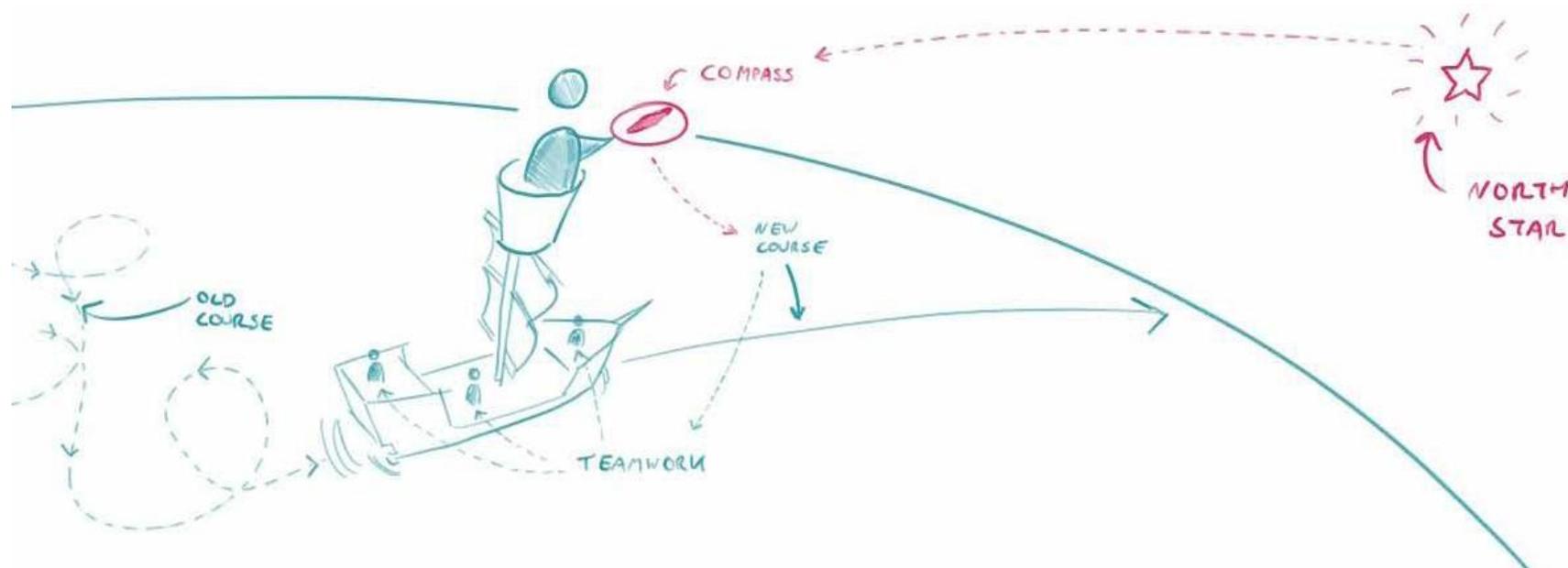
Designing a north star

Strategy is a concept that is highly abstract, existing only in the mind. This makes it difficult for people to discuss strategy and develop a common understanding. Discussions are prone to misunderstandings, as there are many different elements of a strategy that can be interpreted in different ways. The strategy is not concrete, it can not be pointed towards or experimented with easily; this hinders understanding (Stevens, 2013).

Consider trying to explain the workings of a shovel. You can explain all the parts of the shovel by demonstrating it; sticking it in the earth will show why it has a sharp edge, levering the earth up will show why you need a long stick,

throwing the earth a few feet further will explain why the iron blade is so big. The shovel is a concrete object; it can be pointed towards. If someone is talking about the function of the long stick, and pointing towards the sharp edge, the other person will immediately notice the discrepancy; thus reducing the chance of misunderstandings.

You need a concrete object (drawing, prototype, map, etc) that makes an abstract piece of knowledge transferable to other people. This concrete object is called a boundary object (Figure 12). It captures the knowledge of person A in a shape that is recognizable by person B (Star, 1989). With this starting point person A can start to explain

his understanding of a subject to person B, pointing to different parts of the boundary object. The boundary object is used to create a bridge between person A and B by connecting (abstract) knowledge to concrete parts of an object. A boundary object makes abstract knowledge concrete; it facilitates discussion because participants can point towards the object.

The core idea of designing the reference point was to make the strategy of the department explicit; create it into a boundary object.
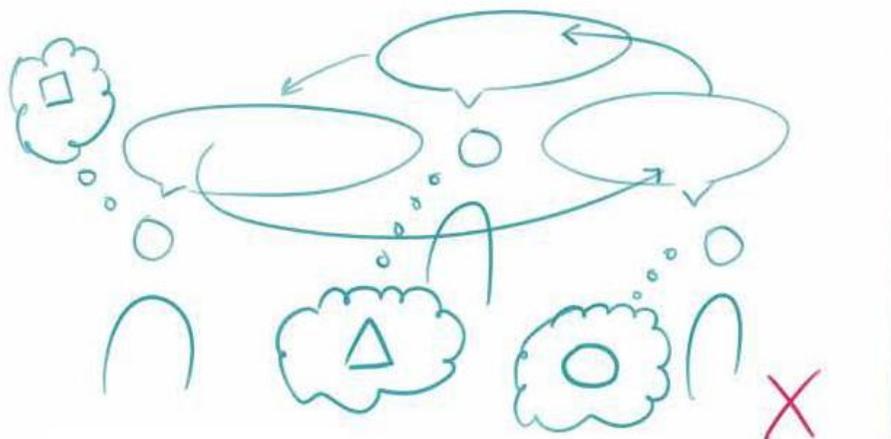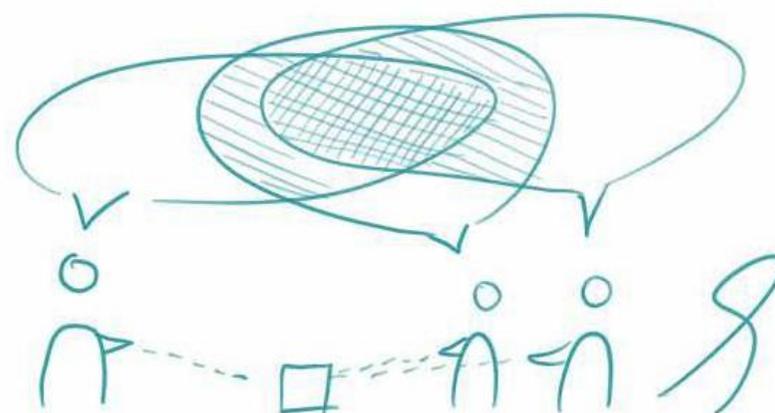

Figure 12 Boundary object

Designing a boundary object

The organisational context of the team consists of the principles, mission, strategy, culture, vision and organisational structure of the department. These elements are connected, modelled as a pyramid structure (Figure 9 on page 22). Combined these elements give the team input in the form of a team objective, authority, information and common language.

The strategy needs to be clear and understood by the team-members. It must capture the attention of team-members to realize it even exists, and then communicate the contents so the team can start to 'use' it. One way to communicate the strategy is by creating a PowerPoint presentation with the strategy summarized in a few bullets. But this is simply not engaging; what is the chance of people actually wanting to pay attention, let alone wanting to use it later on?

A strategy can be large a complex, but this complexity also makes it difficult for people to remember the strategy, or use it. A strategy is only valuable if it is turned into action, therefore it is important for people to 'actionalize' on the strategy. This means people must remember the strategy; it should be short, vivid and easy to remember (Heath & Heath, 2007). Heath and Heath (2007) popularized this idea in their book "Made to Stick". They advocate that an idea should 'sticky'; it should be Simple, Unexpected (surprising), Concrete, Credible, Emotional (importance), and a Story. These elements provide a starting point for designing a boundary object of the department strategy.

Storytelling and branding

The strategy should speak to the imagination. It must provide an experience. One way to do this is through the use of storytelling (Kaplan & Orlikowski, 2014; Reeves, Faeste, Whitaker & Hassan, 2018). We humans are programmed to want listen to stories. By making an abstract point incredibly small, telling a story about a character, you grab the attention of your audience. You use a small story to make a bigger point. A story plays on emotions, not rationale. A good story gives you goose-bumps, and it's these goose-bumps that make you remember the story and its message (Yoder-Wise & Kowalski, 2003).

There is one specific type of storytelling used often by companies to convey a simple message; the storytelling of branding (Mosmans, 1995). A brand boils down the message of an organisation to something very short and simple to remember, then uses techniques of storytelling to create experiences around this message (Vorst, 2016). Usually this is for commercial purposes; they want to forge an association in the brains of consumers between a thing (example: running) and the brand or product (example: Nike running shoes). But what if the same techniques are used to convey the strategy of an organisation? Not to its customers, but to its employees?

The techniques used by branders look very similar to the requirements of a "sticky" idea (Heath & Heath, 2007). This parallel triggered me to study the concept of branding more in-depth for the design of a boundary object.

Branding

A brand captures the core of an organisation, outlining the reason for existence, tone of voice and value proposition of the brand in one coherent whole (Vorst, 2017). Brands are designed to evoke emotion; to inspire and to be memorable (Cramer & Koene, 2010). A brand is not just a symbol (logo of the organisation), it is a story that binds everything the organisation does together. As such it acts as a framing device; supporting consumers to understand the actions of the organisation as a logical sequence of each other (Vorst, 2016). In the same way that a frame is created for consumers, a frame can be created for

Brand DNA in-depth

Purpose. The **purpose** of the organisation outlines the reason of existence and world-view of the organisation; its mission and principles. Principles and mission are aligned and phrased to inspire. Take Nike as an example. Nike's purpose or belief: To bring inspiration and innovation to every athlete* in the world; if you have a body, you're an athlete. This message shines through in everything they communicate. For example; instead of showing a famous athlete in the first "Just Do It"-campaign in 1988, they showed oldest running participant of the New York City Marathon. They have continued to put non-famous 'non-perfect'-athletes in the spotlight in their commercials.

Personality. The principles are then aligned with the **personality** of the brand; a set of 'human' characteristics that are connected to the brand. The brand personality functions to make the abstract concept of an organisation relatable, almost human. The brand personality determines the character of the brand and with it the 'tone of voice'. For example, a brand can be trustworthy in character, or friendly, or sexy, or aggressive. The personality or character of the brand allow the observant to picture as a 'person'. Defined by certain characteristic that 'person' responds to different situations. For example; Nike's personality is the "hero" archetype. It is the person that encourages you to go on, to inspire you, pushes you to never give up. This shines through in the type of messaging Nike conveys through their ads; they are designed to motivate.

Positioning. Purpose and personality are flanked by the **positioning** of the brand; a simple statement that outlines what value proposition the brand delivers for its market. The positioning defines the target group, product category, product attributes, functional benefits, emotional benefits and self-expressive benefits of the products it makes. For example: Nike's position is: *For serious athletes, Nike offers sports apparel that is technologically advanced, delivers great performance and gives people a sense of heroic confidence*. This small sentence makes it very clear what Nike makes.
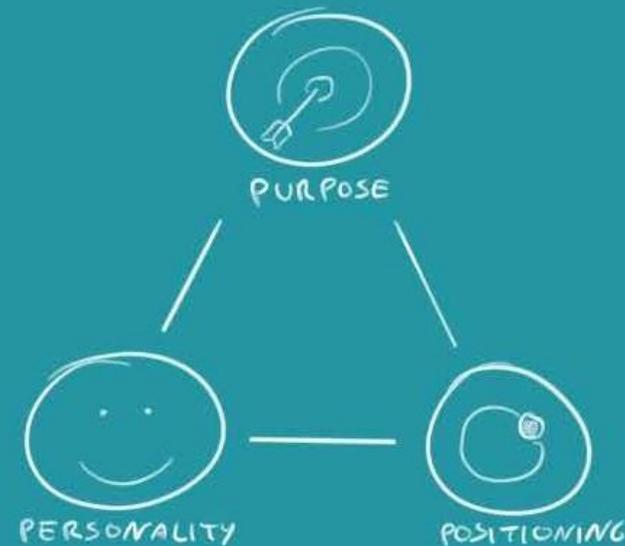
Figure 13 Brand DNA

employees. Known as 'employer branding' this involves the application of branding techniques to (prospective) employees of the organisation (Berthon, Ewing & Hah, 2005; Davies, 2008).

Brand DNA

At the core of a brand lies the brand DNA. The brand DNA captures the core purpose, personality and (market) positioning of the brand (Vorst, 2004). The brand DNA helps not just consumers to know what to expect, but also anyone in the company. This brand DNA acts as a reference point for all the designers and marketers of an organisation; everything they do has to 'fit' the brand. The power of this DNA as a north star lies in its simplicity; the simple statement clearly outlines what is the brand, making equally clear what it is not.

Brand manifestation

The brand DNA is only one half of a brand. The second half is about the manifestation of the brand; the website, advertisements, commercials, flyers, products, logo and all the other things the organisation produces (Mosmans & Vorst, 1998). The strongest manifestations are the ones that trigger multiple senses; the commercials that either give you goose-bumps, or make you laugh (Heath & Heath, 2008). These are the commercials you remember. These are the commercials that 'stick' in your head. In the case of a commercial this is done by combining a message, tone of voice, set of images and music. Together they form a coherent whole; an experience.

Culture book

Historically, branding is used to sell products, but increasingly, it is being used 'internally' by brands as well to improve the employee experience. In recent years companies have started experimenting with culture books; an analogue or digital document that captures the mission, vision, principles, and 'rules' of the organisation; for newcomers and established employees alike. This culture book acts as a reference point for everyone. At IDEO, one of the worlds' leading design firms, the "Little book of IDEO" (Figure 14) lies around everywhere on tables. Employees are encouraged to pick it up, read about IDEO and discuss about its contents with each other. Even clients or guests are encouraged to pick it up and take it with them.

Studying the culture books of 15 companies, I found that each company takes a slightly different approach to designing these culture books. Some are purely digital, and can be updated easily (Atlassian, Basecamp, Valve) or are paper-bound (IDEO, Facebook, Google, Disney). Some specify the strict rules of the organisation (Disney, Basecamp, Stripe) like how to go on a sick-leave, on-boarding process. Some are very clear in outlining what they expect from employees; "Working here will mean some late nights, some weekends, and (especially if you end up in a position of significant

Figure 14 Culture book of IDEO

responsibility) paying attention to email even during off-hours." (Stripe, 2018). Some even outline in detail their 'way of working' (Basecamp).

All of the companies start with outlining what it is they make, then going on to give their vision on organisational culture, then outlining the organisational principles. While this might sound dry, these piece of text are often interspersed with compelling visuals and jokes (example: Valve).

Conclusion - designing a north star

As a solution to the problem of clarifying the department strategy I decided to design a culture book for internal use (by the Schedule-Tool team). The culture book outlines the mission and principles of the organisation, and the 'way of working' of the team. As an instrument for the contents of the culture book needs to be coherent, as well as 'future-proof' (in the sense that its content can be scaled from internal to also external use) I wanted to build on the principles of branding; defining the brand DNA of AT, thereby taking into account the style and story of the 'brand manifestation' that the department already published.

Designing the compass

Building on the analogy of the ship navigating through the north star and compass, I developed the idea of creating a design that allows the team to set its own goals, based on the input of the department strategy, important stakeholders, product users, and the technical expertise of the team itself.

In chapter 5 the lack of a clear direction was identified as an important challenge of the team. To remedy this, a design intervention was done in which the team drafted a sentence that outlined the goal and scope of the product. Such a sentence can be used to define a short term goal (in 2 to 4 weeks), but also a 'long-term'-goal (in 3 to 6 months, or even years).

Goal setting

In chapter 5 I reported the results of the use of a 'statement of direction'; a single sentence that captures the goal and scope of the project. This statement of direction was inspired by how brands use their 'positioning statement' to capture the essence of their brand in a single sentence. Similar to the positioning statement sentence I designed a sentence with blank spaces to be filled in by the team. It allows the team to evaluate the who, what, how, when and why of the problem they are trying to solve.

This 'statement of direction' provides the most important starting point for the design of the compass.

I want to use this statement for the team set both long- term (3 month) and short term (1 month) goals; resolving the lack of a 'mid-term'-vision and creating a very concrete actionable reference point for the team to work on, and work together.

Method

During the study, this sentence was found useful, but should be regularly reviewed by the team. This is where Scrum might provide a solution.

During the research it was found that the product team lacks a structured way of working. As part of the design intervention 'Scrum' a more structured way of working was introduced: the scrum methodology.

Scrum is a structured method for software development that follows the agile philosophy (Schwaber & Sutherland, 2017). A scrum-team consist of a development team, responsible for product development, a product owner, responsible for prioritizing elements in product development and scrum- master, responsible for facilitating the development process including facilitating meetings and resolving roadblocks. Characteristic for the scrum methodology is working in 'sprints'; the team works based on 'mini-projects' of 2 weeks. Every 2 weeks the team delivers a new version of the software and reviews the progress amongst team-members and users.

The 2-week 'sprint'-structure provides a 'rhythm' for the team to develop. Part of this sprint are dedicated scrum-meetings in which the team aligns on team development, project progress and planning. Each meeting has its own purpose and agenda. Part of the 'sprint planning' is setting the goal and 'to-do-items'. We can use this meeting, or a similar one, for the team to set a goal.

Conclusion - designing a compass

As a solution to the problem of aligning the Schedule-Tool team with corporate strategy, and keeping them aligned, I decided to create a method, inspired by Scrum, that supports the team in setting clear goals and providing a 'working rhythm' for them to act on those goals. Scrum was chosen as a starting point because it is the current method of the team, the current method of the peer-teams of the Schedule-Tool team. The basic of this design is to combine the two design interventions 'statement of direction' and 'scrum' (chapter 3), into 1 design, so that goal setting becomes part of the way of working of the team.

Orchestra

This project is about collaboration; how to work together as a team, but also on a larger scale; as a department. To understand this dynamic I developed a metaphor that inspired me to find an integrated and scalable solution.

The metaphor of an orchestra. An orchestra consists of many different musicians, each highly skilled. All 40 together they perform a symphony; a complex, beautiful intricate piece of music. This is our department. 40 highly skilled experts; working together on 1 mission to transform FLYCO's operations.

An orchestra consists of 40 musicians, but they are 'grouped' in 'sections' of musicians. In small groups of, say, 4 musicians, they play together. Each group produces a sound that 'fits' into the symphony. Combine the sound of 10 section and you have a symphony.

So it is with AT. We are organized in smaller teams. Teams that are manageable, where we know each other. Each team must know how they 'fit' into the orchestra. An orchestra does this by specifying the key

the musicians will have to play in. The key specifies which 'notes' can or cannot be used. They restrict the musicians to a set of notes that sound pretty well together; the key reduces the chances of false notes.

The key of a symphony is similar to the norms of a group, or the principles of an organisation; these principles outline what is 'normal' for its members. It provides a first stepping stone for everybody to 'play together'.

The second element of a symphony is its rhythm; the drums. The drums are the 'heartbeat' of the orchestra. It is a device that allows everyone to play together by outlining the 'timing' of the different notes. No longer do you as a musician have to think about when to play a note; you simply follow the pulse of the orchestra. The pulse synchronizes the performance of all the different musicians; it is their 'common way of working'. This analogy can be elaborated on further; the bassline of the symphony is similar to the mission of an organisation, the melody similar to the vision of the organisation, the sound of the orchestra is similar to the culture of the organisation.

But for me, the key and rhythm of the orchestra provided me with the inspiration to design a system for the team to play together. To align with the key and rhythm of the symphony.

The orchestra metaphor is where I got the inspiration for the name of the system. Today we specify the rhythm of a song in 'beats per minute (BPM)', but in classical music this is done with Italian words that describe the pace of a piece, like adagio, moderato, . My favourite; andante; at walking pace. Similar to these words I wanted to give my design a name that hints towards this Italian custom.

I settled on the word momento. This is the Italian for time, or moment; the impetus gained by a moving object (Oxford Dictionary of English). In terms of its sound it is similar to the various Italian words to describe tempo, but in terms of its meaning I associate it with acceleration. Becoming better and better, faster and faster, doing more and more. I really like this idea, that the design can be used to become better as a team, better as a department.

Deliver
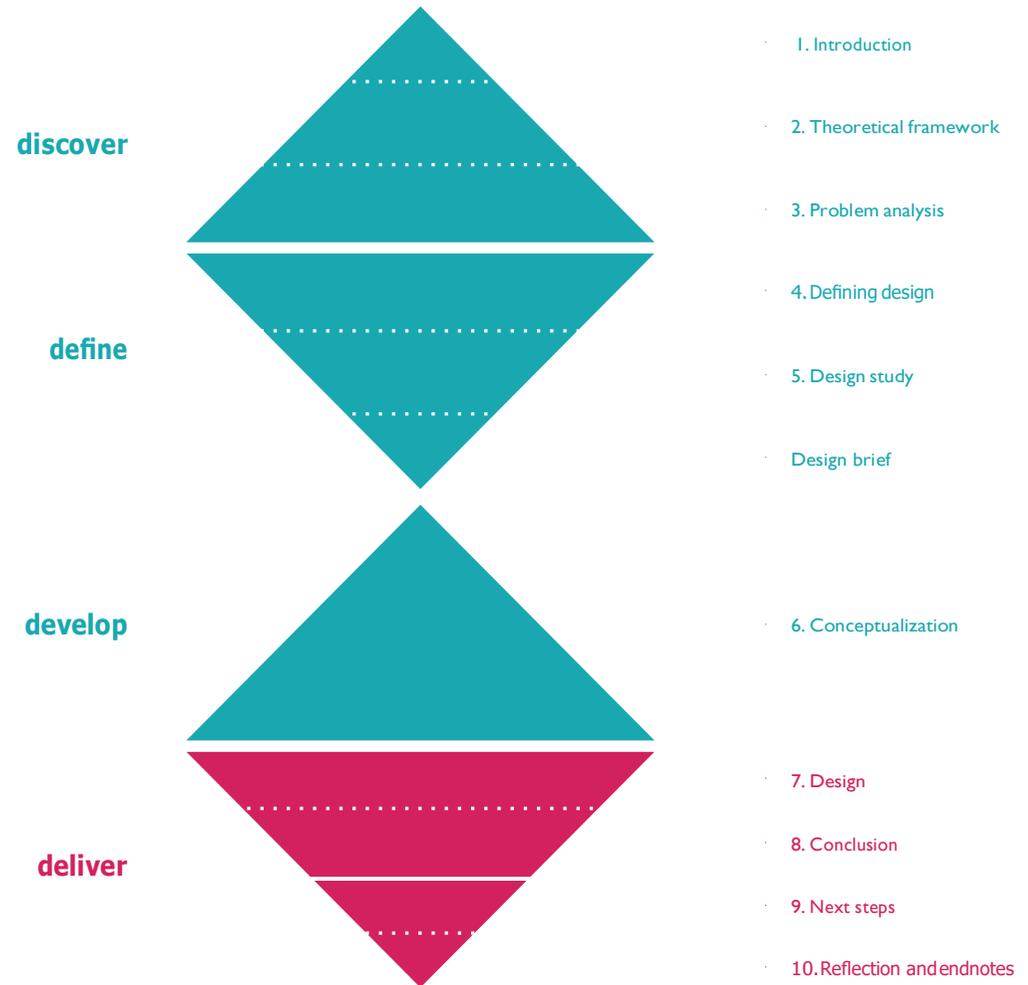
discover

define

develop

deliver

The define phase concluded with a design brief outlining the challenge to be solved; the design of a 'north star' and 'compass'. In the 'develop' part of the report a solution is designed. Chapter 6 introduces the design process and core ideas of the final concept. Chapter 7 outlines the final design.

Chapter 7:

Design

Chapter 6 outlined the design process and basic building blocks of the design, this chapter introduces the final design and its detailing. The final design is *Momento*; a system consisting of a method and toolset for the Schedule-Tool team set explicit goals. This chapter gives a brief overview of the system, then continues to detail the design of the different tools.

Momento is a method and toolset for the Schedule-Tool project team to set explicit goals in product development. These goals are split up between mid-term goals, short term goals and sprint goals. The method allows them to consciously set these goals, combining user feedback with stakeholder feedback and a clear strategy to set goals that strike a balance between strategic progress and user requests.

The method consists of a series of meetings and tools to use during those meetings to set the goals (Figure 15). There is a **canvas** that aids the team in defining a goal in a single sentence. There is a **card-set** that outlines the purpose and rules of various meetings in the method. Lastly, there is a **culture book**that captures the mission and principles of the team into one product; a boundary object facilitate discussion amongst the team and provide input for setting goals.

In the following two paragraphs first the method is explained, then the corresponding products are briefly introduced. The next section of this chapter outlines the method in more detail, explaining the reasoning of its design. In the three following sections respectively the canvas, card-set and culture book are explained.
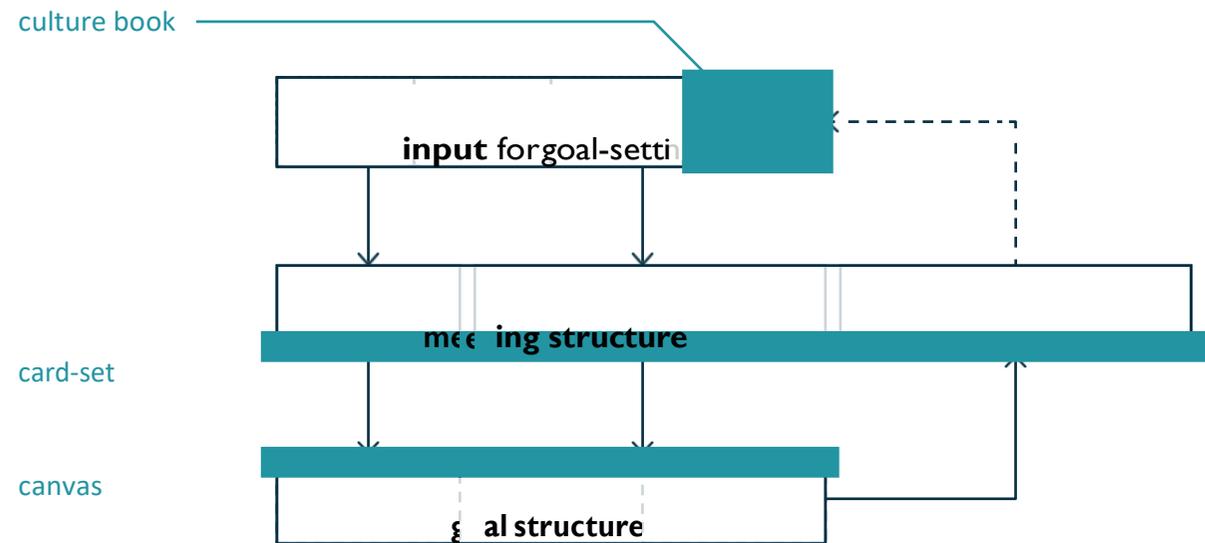
culture book

input for goal-setting

card-set

meeting structure

canvas

goal structure

Figure 15 System overview of the design

Momento: how does it work?

The starting point of this method is a development cycle of three months (one quarter year). This cycle consists of 6 smaller cycles; sprints. Every sprint takes 2 weeks. At the start of these three months the team defines a large goal for the product they will deliver in three months (Figure 16).

This 3 month goal is then split up in a rough plan for 3 months, the first month-goal is defined in the same meeting as the 3 month goal. The month goal captures in a single sentence the goal and scope of the team for that month.

The month goal is then used by the team to develop the product in sprints (sprints 1 and 2). Every two sprints; every month, the team delivers a new product version. This version (and intermediate result) is demoed in the sprint demo meeting for user feedback. But this monthly version is also presented to stakeholders in the user board meeting. During this user board meeting the product owner of the team collects stakeholder feedback.

After the user board the team collects all feedback (users, stakeholders) in one place, together with the long-term mission of AT and major product version statement. Then the team defines a new month goal, in a single sentence. This month goal is used as input for the

following two sprints (sprints 3 and 4).

The third month goal is a refined version of the original 3 month goal. At the end of the following two sprints (sprints 5 and 6) the team needs to deliver on its original promise and deliver a new version of the product.

The feedback from users and stakeholders on this version are then used to create a 3 month goal, to develop for the coming three months. This is done by collecting feedback from users, stakeholders, and team (about technical stability), combining this with the mission of the department, to define a version.

Method in detail

The method consists of a large cycle; the development cycle (3 months), and 6 sprints cycles (2 weeks each). These cycles and corresponding meetings are in large part based on the Agile and Scrum methodologies. The main objective of this method is to support goal-setting through a more structured way of working, not to introduce new meetings.
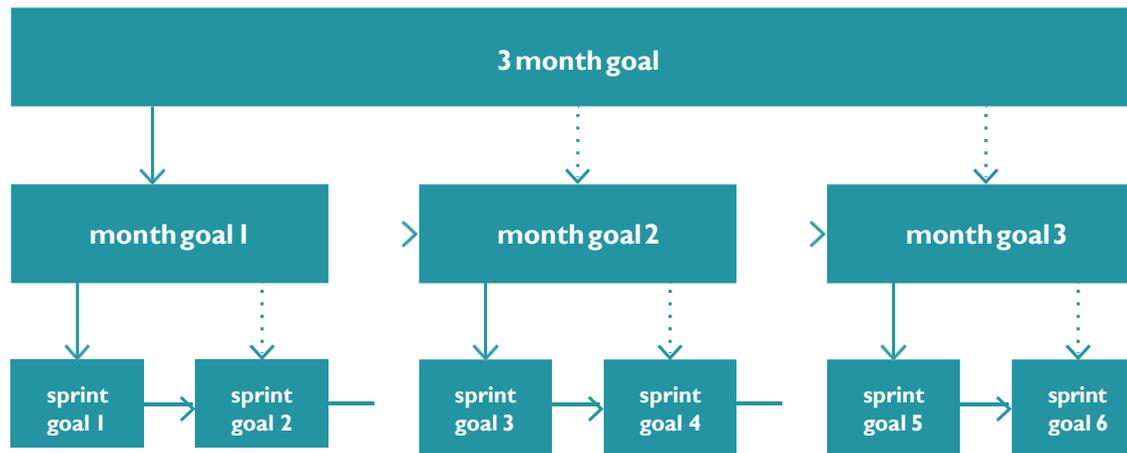
Figure 16 Goal structure in detail
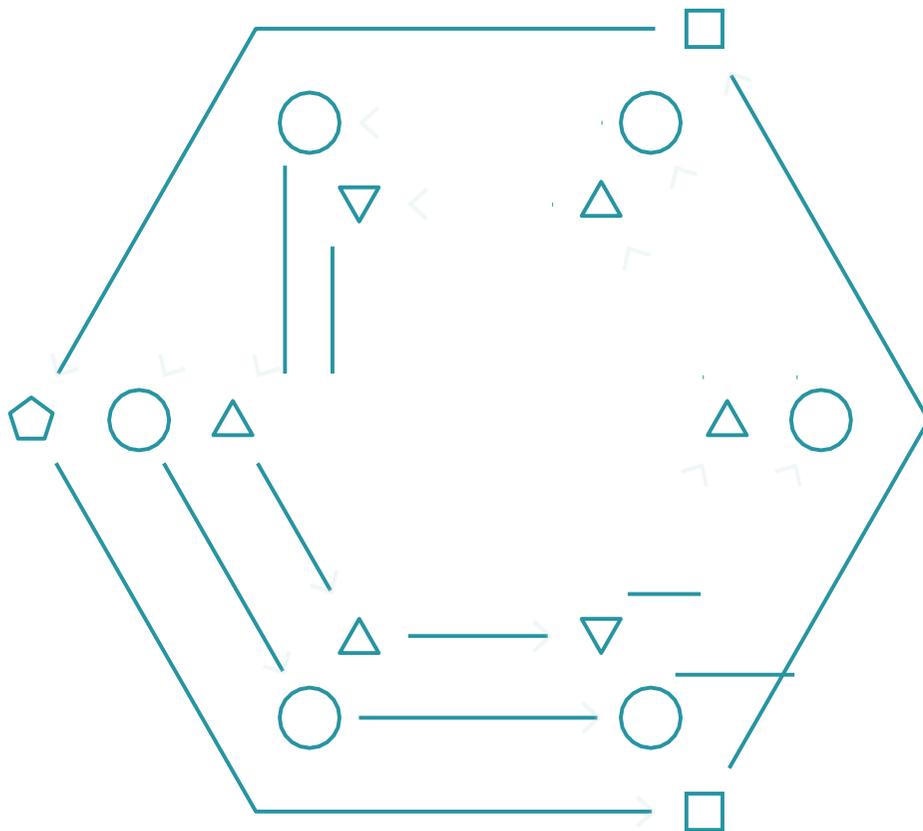
sprint (top secret ingredient #4)

We develop in 2-week sprints, together with our users. It's very similar to scrum, but a little different, read about it on the next page in more detail.

pi event

The start of the quarterly cycle. During the event every team defines its goal (we developed a separate toolset for you to do so ;-), and presents and aligns this goal an plan with other teams.

user board

Every month we gather the most important stakeholders per business domain, and ask them for their feedback on our new products. This feedback is then used by the teams to create monthly-goals

demo

Bi-weekly demo-meetings are an opportunity for AT to come together and put the spotlight on one or two teams. These teams give a presentation on their progress, so that we all can catch up on what we're making.

townhall

AT is pretty big, and we all have questions we want to ask to management. The townhall is an opportunity to do so, every 6 weeks, in a setting where everyone at once can hear the answers to these questions.

sprint cycle

The sprint consists of 5 different meetings, each with their own purpose, agenda and owner

sprint demo

sprint retro

sprint stand-up

sprint planning
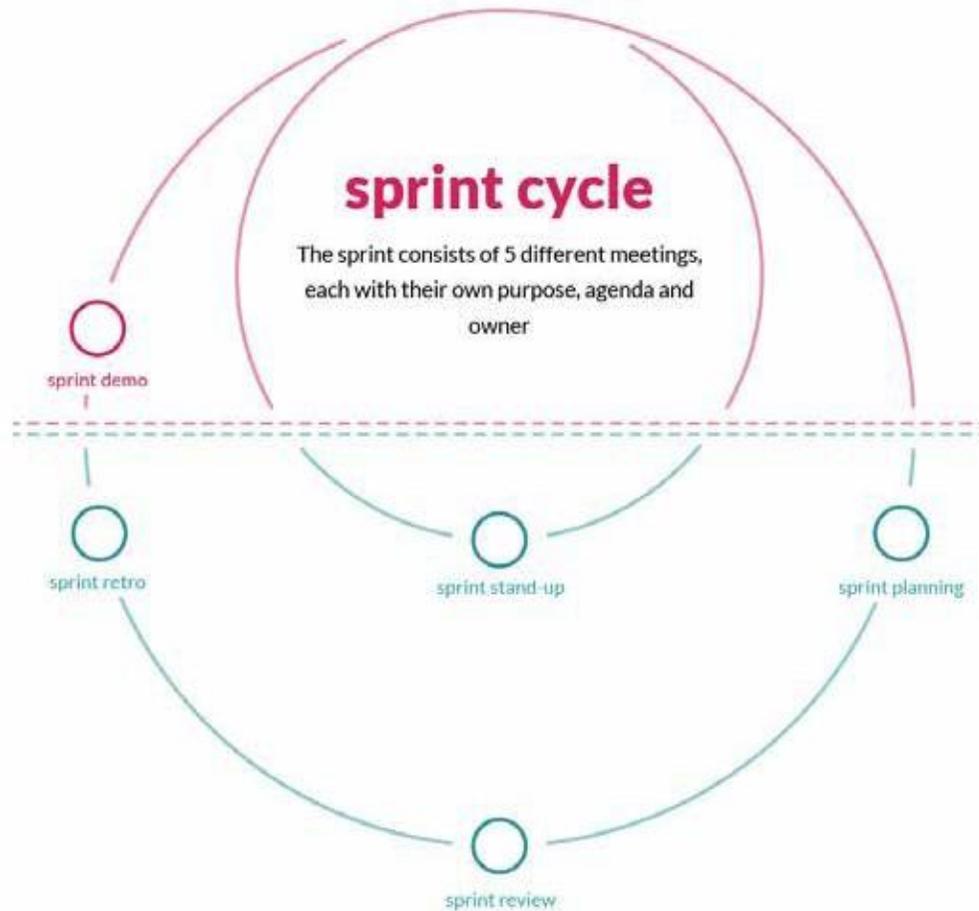
sprint review

sprint review

During the sprint review the team creates an overview of user feedback, stakeholder feedback, technical debt and the AT mission, using the statement of direction-canvas (see momento miniature toolset). Using this canvas the team defines a 3 month, 1 month and/or sprint goal

sprint retro

During the sprint retro the team evaluates the performance of the team in the last sprint, using the retrospective canvas (see momento miniature toolset, later on in this card-set). At the end of the retro meeting the team sets an area to focus on in terms of team performance during the coming sprint.

sprint planning

During the sprint planning the team takes the team focus (defined in sprint retro) and sprint goal (defined in sprint review), and translates these goals into an action plan; laying out the actual to-do-items and assignment of these items to team-members. For this, the team uses the online tool Jira to create and assign tickets

sprint stand-up

During the sprint the team has a daily stand-up with only the team-members to give an update on progress. During the meeting each member presents 1) what he did yesterday, 2) what he plans on doing today and 3) whether he foresees impediments. The sprint stand-up takes maximum of 15 minutes, and should focus on giving an update, not discussing progress.

sprint demo

During the sprint demo the team presents a new version of the product to (a selection of) users and stakeholders. Each new feature is presented and outlined, and after each feature the users are asked for their feedback. It is the task of one dedicated team-member to make notes about the feedback from users per feature. This feedback will later be collected in the sprint review. The sprint review is also a moment to celebrate progress of the team

Momento toolset

Momento consists of three products that the team can use to put the method into action. The first product is a canvas that supports the team in collecting all relevant information to set an explicit goal (major or minor product version). The second product is a card-set; the cards can be used during the different sprint meetings to 'guide' the meetings; the contents of the cards support the team in remembering the purpose of each meeting. The third product is the culture book. This is a boundary object that captures the mission and principles of the department; it is a reference point for the team to facilitate discussion around setting goals. It provides the 'long term' or 'strategic' input for the team to set goals.

statement of direction - canvas

date

user input	technical input	version number:
		For _____ (users)
		during _____ (a situation/use case),
		_____ (product) produces _____ (main outcome)
		by _____ (presenting something to the user),
		determined by _____
stakeholder input	strategic input	_____ (values/working principles),
		taking into account _____
		_____ (limitations of the working principles)
		to _____
		_____ (solve a problem).
		delivery deadline: ___-___-_____

Figure 17 Mockup of the 'statement of direction canvas'

Canvas: statement of direction canvas

The statement of direction canvas (Figure 17) supports the team in writing in one single sentence the objective of a team. It consists of two half's; first to collect all the information needed to define the objective, then to translate that information into an explicit objective. The canvas can be printed on a large scale, or drawn on a white board, then filled in, for example with post-its.

Part 1: information collection

The first half of the canvas consists of four boxes user feedback, stakeholder feedback, technical feedback and strategy. Box by box the team fills in all the information.

User feedback. The task of the team is to transform airline operations, for which the team needs to design for and with current users; the flight schedule managers of FLYCO. The first source of input is therefore their feedback; collected during co-creating, testing and sprint demos in tickets in the online project management tool of the team. These tickets are prioritized by the product owner; resulting in a list of features/requests the users have.

Stakeholder feedback. During the user boards all relevant project stakeholders come together to discuss progress of the project. During these user boards the Product Owner must collect the requests of these different stakeholders; noting them down in a list to be shared with the product team. The first task is to collect feedback, even when interests seem to conflict with each other.

Technical feedback. During testing and development the team constantly makes decisions about the design of the product. Sometimes these are quick solutions, that might offer a short-term solution, but would cause instability of the product in the longer term. This means

the team incurs technical debt; these quick solutions need to be fixed later on. Usually invisible for the users or stakeholders, the amount of technical debt is important to take into consideration when deciding on the next goal. Ignoring the technical debt might be problematic a few months down the road.

AT mission. The team not only develops for their client, but also for the future of the airline. To simplify this mission we will assume that the part of the airline strategy relevant for the team, is captured in the mission of the department.

Part 2: version statement

The second half of the canvas consists of a sentence with blanks, to be filled in by the team (Figure 18, Figure 19. The sentence combines the user, use case, problem to be solved, working principles of the product and limitations into a single sentence. The problem to be solved is the goal of the product. The user, use case, working principles and limitations restrict the scope of development.
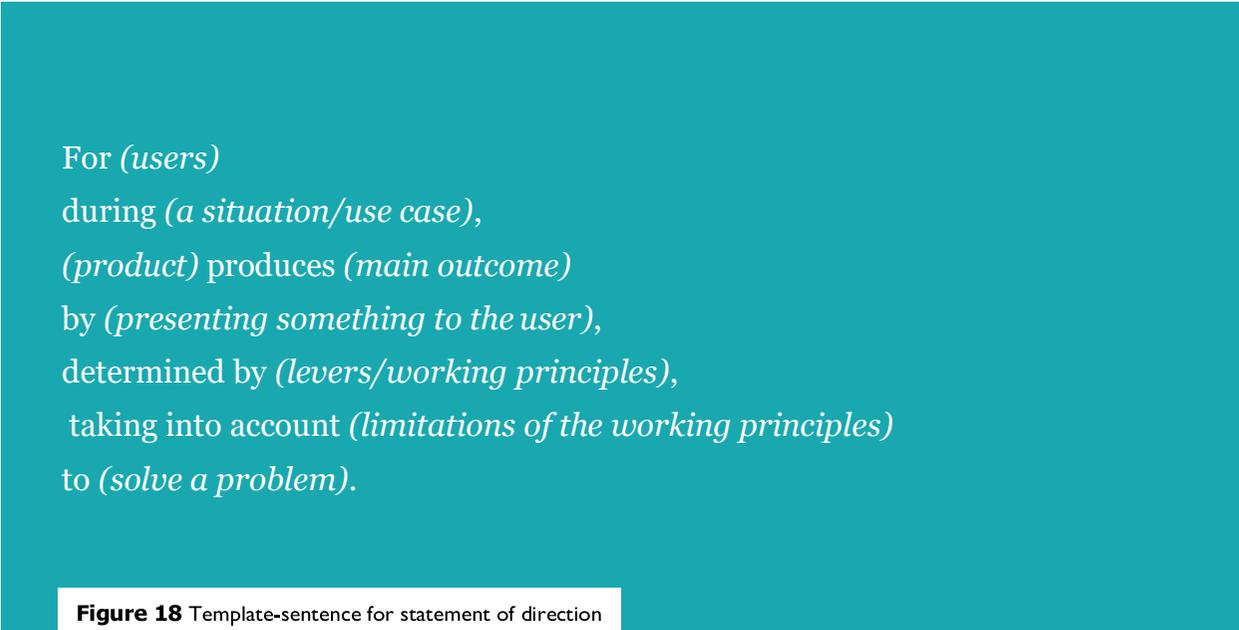
For *(users)*
during *(a situation/use case),*
(product) produces *(main outcome)*
by *(presenting something to the user),*
determined by *(levers/working principles),*
 taking into account *(limitations of the working principles)*
to *(solve a problem).*

Figure 18 Template-sentence for statement of direction

Users.

Who is the product created for? Resolve ambiguity around who should be asked forfeedback

Situation/use case.

When will the product be used?

Main outcome.

What 1; what thing does the user get as a result of running the software?

Presentation.

What 2; what will the user see; how is the result presented to the user?

Working principles.

How 1; what is the basic logic of the algorithm?

Limitations.

How 2; which elements are taken into account by the algorithm (and which are not)?

Problem.

Why; what problem does the product solve for the specific user in a specific use case.

Figure 19 Detailed explanation of the elements of the canvas

Momento mini-booklet

The mini-booklet is a quick to use and portable tool for team-members to use during different meetings (Figure 21). The booklet offers a complete description of the momento method, and miniature versions and explanations of the canvasses for the *sprint review* and *sprint retro* meetings.

Fig
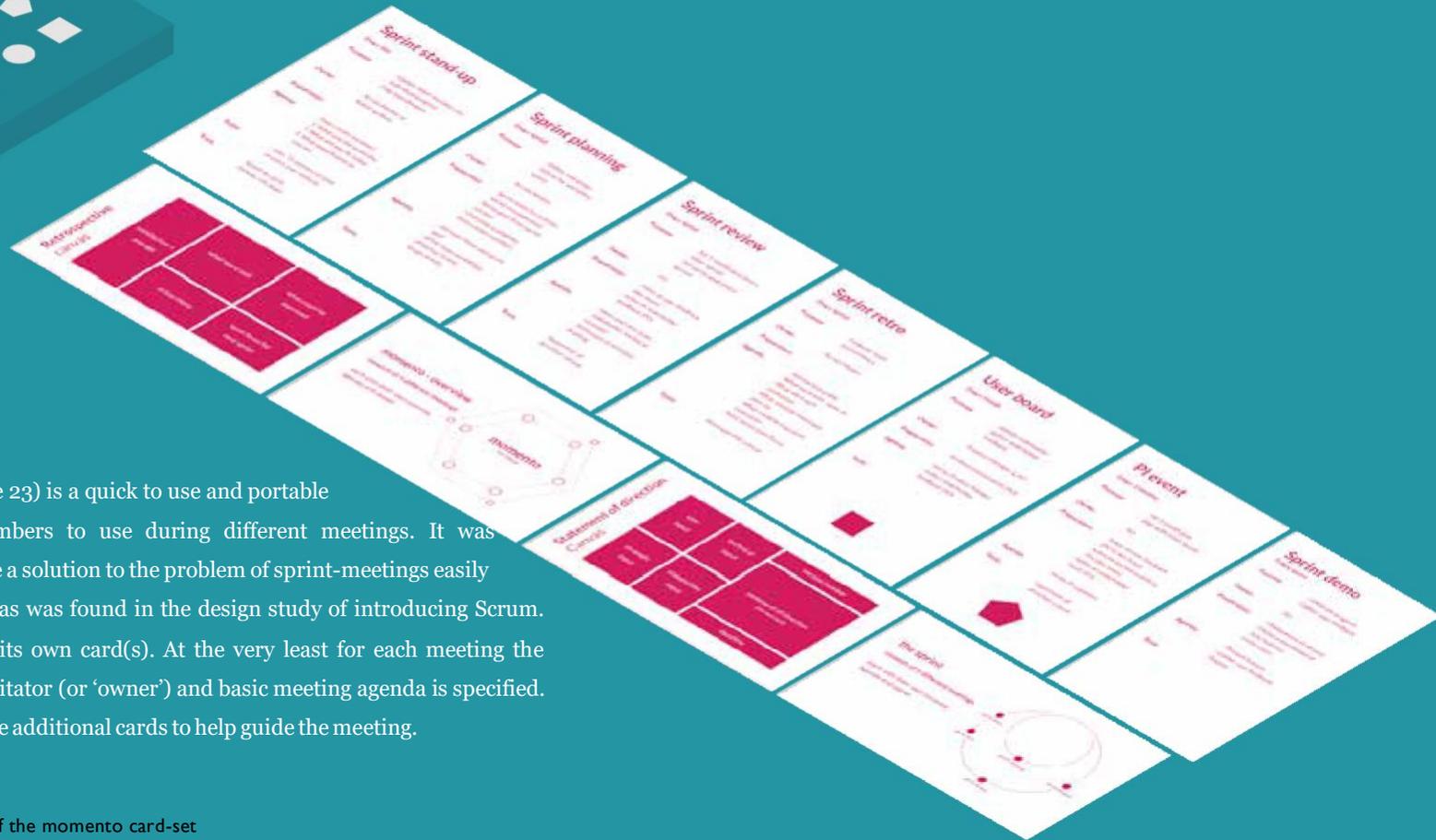
Card-set

The cardset (Figure 23) is a quick to use and portable
tool for team-members to use during different meetings. It was
designed to provide a solution to the problem of sprint-meetings easily
moving 'off-topic', as was found in the design study of introducing Scrum.
Each meeting has its own card(s). At the very least for each meeting the
purpose, main facilitator (or 'owner') and basic meeting agenda is specified.
Some meetings have additional cards to help guide the meeting.

Figure 23 Mock-up of the momento card-set

Meeting	*Card*	Card purpose
Momento	*Momento card*	**Provide quick overview of the method**
Sprint retro	Sprint retro purpose card	Explain purpose, agenda and owner of sprint retrospective meeting
	Sprint retro canvas miniature card	Small version of the sprint retro canvas, for quick reference to draw it on a whiteboard
Sprint review	Sprint review purpose card	Explain purpose, agenda and owner of sprint review meeting
	Direction statement canvas miniature card	Small version of the statement of direc-tion canvas, for quick reference to draw it on a whiteboard
Sprint planning	*Sprint planning purpose card*	Explain purpose, agenda and owner of sprint planning meeting
	Sprint planning canvas miniature card	Small version of sprint planning canvas, for quick reference to draw it on a whiteboard
Sprint standup	*Sprint stand-up purpose card*	Explain purpose, agenda and owner of sprint stand-up meeting
	Stand-up boss card	Dedicated card for the (temporary) 'owner' of the standup, in case of scrum-master absence
	Standup – yellow card	Card that the stand-up boss can use to warn a team-member when he is about to go 'off-topic'
	Standup – red card	Card that the stand-up boss can use to interrupt the team-member when is 'off-topic'
	Standup – blue card	Card that the stand-up boss can hand out to 'park' an issue temporarily to discuss it later on (similar to "knoop in zakdoek" – a reminder to do something later)
Sprint demo	Sprint demo purpose card	Explain purpose, agenda and owner of sprint demo meeting
User board	User board purpose card	Explain purpose, agenda and owner of user board meeting
PI event	PI event purpose card	Explain purpose, agenda and owner of PI event – goal setting
	Direction statement canvas miniature card	Small version of the statement of direc-tion canvas, for quick reference to draw it on a whiteboard

Table 5 Overview of the cards in the card-set

The little book of AT

This 'culture book' captures the principles, mission, vision and organisational structure of the department into a single product to be used as a compass by all employees. Its form and tone reflects the character of the brand of the department and is designed to be a 'whole'. It outlines clearly what is, and what is not AT. Part of the culture book is also the design of the system; Momento. The culture book, through the articulation of principles, design and tone of voice sets the outline for an organisational culture of the department. Together with the video (discussed later), it is designed to inspire by connecting the abstract and technological purpose of the department (artificial intelligence) to a human component. Its tangible form and visual style are designed to be easily understandable and to be used in a discussion. The design of the book blends a modern graphic style with a sketchy style to invite members of the organisation to draw on it; make alterations and make it their own.

Brand DNA

Purpose:

Empowering operational staff to do more than they thought they were capable of

Personality:

Creator;

Characterized by a desire to give form to a vision and deliver enduring value; to innovate and enable self-expression

Positioning:

For operational staff, AT builds the information systems that support operational experts in complex decision making, allowing staff to feel empowered and take ownership of their work.

Figure 25 Designed brand DNA for AT

Brand DNA

To create coherency in the story of AT I used the principles of branding. A starting point for the design of this culture book is the brand DNA (Figure 25), outlining the purpose, personality and positioning of the 'AT'-brand.

A running theme in the brand DNA is the connection between technology and people. Technological development for its own sake does not motivate, for it to be inspiring it must provide a greater context. This is embodied in the word "empowering" (purpose) and "feel empowered" (positioning statement).

Book design

The book is created around two sections; mission and way of working. In the first section the mission of the organisation is defined. First short and in broad terms, then through storytelling it is refined and clarified. The second section of the book is about the 'way of working'; introducing 5 'top secret ingredients' for how AT works. This section outlines the principles and method of the team (momento).

Mission.

The first two pages of the book (Figure 26) lay out the mission of the department, connecting 'human creativity' and 'the logic of algorithms' in the mission; 'create actual intelligence'. The next 4 pages continue to explain this mission by connecting the central word 'intelligence' to the story of a gate agent and schedule manager. In the next section "how we help", the book makes the mission more tangible. "What we build" outlines the different projects.

Figure 26 Page 1 and 2 of the Little book of AT

Way of working

In the section "how we build", the book introduced 5 'secret ingredients'. The central theme of this section is 'teaming'. I want the design of the book to be informative, but also inspiring. I envision it as a catalyst for collaboration within and across teams. Similar to how all the musicians of an orchestra are necessary to produce a symphony, AT needs all the consultants and experts to work together to complete its mission.

Ingredient 1: teaming and organisational structure. This section explains the benefits of teaming and collaboration, and continues to outline the (informal) organisational structure of the department.

Ingredient 2: principles. Inspired by the studied culture books I defined 4 core organisational principles that revolve around teaming, responsibility, quick testing and pro-activity (Figure 28).

Ingredient 3: momento. This section explains the basic way of working of the team (and department), outlined earlier in this chapter (Figure 27). One "circle" is added: the pink circle in the center. This cycle is designed for the
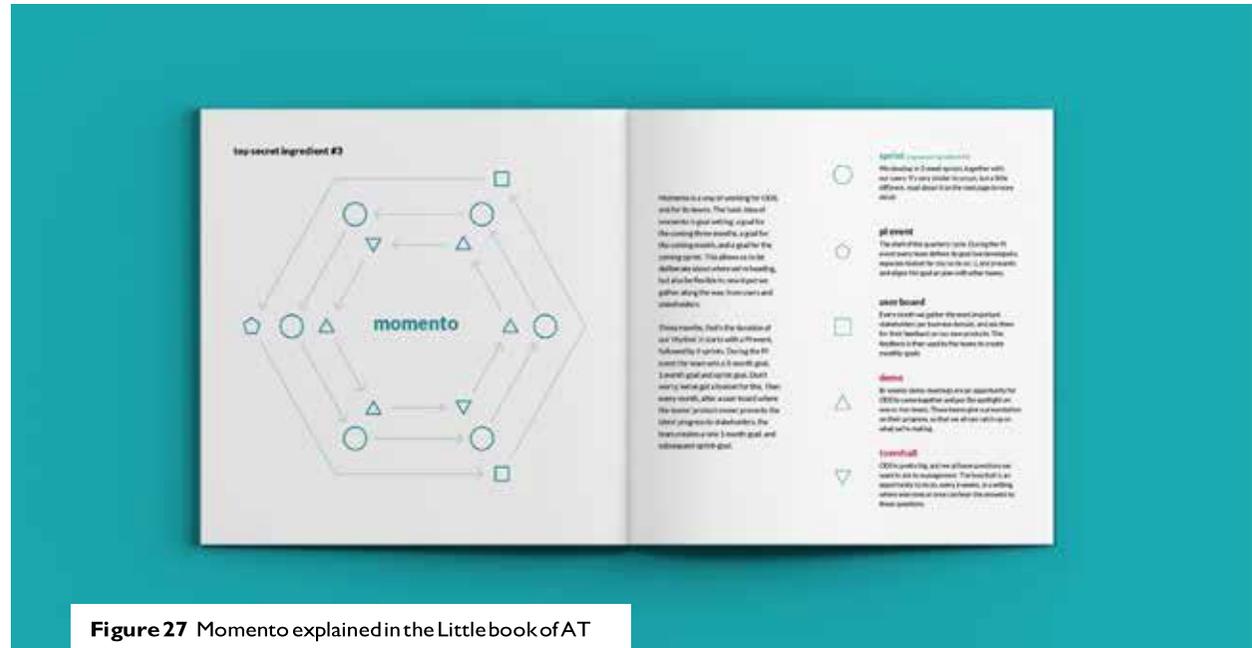

Figure 27 Momento explained in the Little book of AT

weekly demo-events and 6-weekly townhall-meetings to the agenda of the department. During the demo two to three teams demonstrate their product to the department, giving a short presentation on their project. It is a moment to celebrate progress of the team publicly, and a moment for AT-members to (formally) get to know each other and the other projects. During the townhall meeting the roles are reversed; the management is put on the stage and can be asked questions. Each townhall meeting starts with a 15 minute presentation, followed by 30 to 45 minutes

meetings are further discussed in chapter 9 (next steps).

Ingredient 4: sprint. The sprint is an element of the 'momento-development cycle', it outlines the meetings of the team in a single sprint. Visually the sprint is 'split' in two halves; the top half of the sprint is part of co-creating with users, the bottom half is done by only the team. By visualising it this way co-creation is emphasized as an important way to develop and quickly learn (similar to principle 3; fail right). .

Figure 28 AT principles, as described in the Little book of AT

Video

The video captures the essence of the culture book and toolset into a single 2-minute experience that simultaneously captures the essence of the department brand, and teases the culture book and toolset.

Design detailing

The video consists of 5 "chapters" (Figure 29) that lay out the foundation of the brand. In chapter 1 the mission and vision of the department are introduced. Chapter 2 answers the question of how this goal will be achieved; teaming. Chapter 3 goes on to outline the principles of teaming, with visuals that appear matching the 'way of working' introduced in chapter 4. Chapter 5 repeats a variation of the team principles, inspiring the team to start building.

The central premise of the brand is that the mission can be achieved through collaboration. This is reflected in the use of the word 'we' in the wording of the video.

The visual style of the video (colors, fonts and colors) are taken from the flyer created by the department. As a first version of the house-style this style is being used in the correspondence with clients, and members of the department are familiar with its appearance; thus easing the 'fit' between the video and the current 'brand' of the department.

We believe in making airline operations human once more

We build
together with the people
that form the core of
FLYCO the intelligence

for them

to make decisions
to work together
to experiment
to dare to fail

to innovate

we create actual intelligence

a complicated machine of interconnected cogs
an intricate web of layers
play a symphony

to transform this [hierarchy]
into this [network]

Building

starts with 1

but 1 is not enough
we have to form a team...
... and lots of them

become an even larger team
form an orchestra

perform our symphony

----

being a team means
to set a goal
own your work
celebrate success

being a team means
to listen to each other
to what is said
and what is not

being a team means
to work together
speak a common language

to keep eye on the road
and an eye on the horizon

----

together,
these things form the momentum of our success
the beat of our symphony

----

we build together

we create
we experiment
we try
we fall
we dust ourselves of

we keep our eyes open
continually improve ourselves

we create, creatively

Figure 29. Script of the video
Morgenrood bolset

Chapter 8:

Conclusion

This thesis concludes that design can be used to create strategic alignment by 1) creating structure in the strategic context around the team, 2) supporting the team to set explicit goals and 3) creating structure in the way of working of the team.

Creating strategic clarity. A self-managing team needs to understand its position in the organisational context. With the Schedule-Tool team, it was unclear what the mission, principles and organisational structure of the department was. To solve this problem a booklet was designed that captures all necessary information in one location; creating a reference point for team-members to understand the teams position in the department. It provides clarity on the strategy of the department, which in turn facilitates goal setting of the team. The designed booklet does this by capturing the 'abstract' information of strategy, principles, and organisational structure into a tangible object, facilitating a discussion around the content. To make the abstract content more concrete, the booklet uses visuals and storytelling to trigger the imagination of the reader.

Supporting the team to set explicit goals. A self-managing team needs a direction that is clear, challenging and time-bound. Such a direction was lacking in the Schedule-Tool team. Similar to creating strategic clarity, design was found to be useful for making things explicit and concrete. Design was used by the team to capture the objective of the team in a single sentence, that captures both the objective and scope of the project.

Creating structure in the way of working of the team. A self-managing team needs an agreed upon common way of working, or method, that provides a 'rhythm' for product development. The Schedule-Tool team did not have a clear way of working. Design was used to create and communicate a way of working for the team, taking inspiration from the design process itself. Design as a process and scrum are similar in the sense that they are built on the assumption of quick learning through iterative cycles of product development. The scrum-methodology served as a starting point for designing a new way of working, where the design process provided inspiration for explicit goal setting, allowing the team to consciously evaluate progress.

Chapter 10:

Next steps

Implementation

This research and the design are very specific for the Schedule-Tool project team, this department, in this point of time, with this researcher and research approach. In chapter 10 I explore this relation more in-depth. For this chapter it means that in defining next steps (like scaling up the design), the research context has to be taken into account.

Implementation of momento method

The implementation of the method within the Schedule-Tool team is relatively easy to do. As a first step the method needs to be presented to the team. The most logical next step would be to apply the method, rather than evaluating it. In its application the team can start to evaluate the design, and alter it; 'make it their own'. I suspect that this process in itself will benefit the development of group norms. Though, when altered the core of the design should be taken into account; structured goal-setting and a steady, predictable 'rhythm' for product development to increase focus.

Implementation of momento culture booklet

As noted in "validation" (chapter 7), the implementation of the culture booklet is more difficult to do as it should provide clarity on the strategy of the organisation. Therefore it is important that when the booklet is presented to a large number of people, the core message of the booklet is correct, and won't change soon. The booklet itself can be altered, but the strategy it communicates should be 'frozen' in time, as to prevent ambiguity the strategy.

The logical step for the implementation of the booklet is further development with a select group of managers or employees. This way the contents of the book can be refined until this representational group thinks the book is done. The challenge with this process is that it is very easy to get 'caught up' in continually improving the booklet, never publishing it. Therefore, the group should set a clear deadline to publish the book and 'force' themselves to finish the work and take decisions.

Scaling up

Both the momento method and booklet can be scaled up for use by other teams than the Schedule-Tool team. In the case of the method a third cycle can be added that supports group development across the department. This cycle is already part of the design of the booklet presented in chapter 7.

In the inner cycle of Momento 2 events are added. Every week the department comes together in a department demo, represented by an upward facing triangle. During this meeting one or more teams give a 5 to 10 minute presentation on their project and demonstration of their product. Similar to the sprint demo for product users, these moments are a moment to celebrate progress. It is also a moment for everyone in the department to understand what others are working on and build inter-team relationships.

The second event added in the cycle is the townhall meeting, held every 6 weeks. During this meeting the department comes together to ask question to the department management team, after a 15 minute presentation by the team on some topic. Townhall meetings can have a theme, but are primarily a place where unscripted questions can be raised. This way the meeting acts as a platform to build trust between management and employees through open communication (reference), and a platform to inform a large number of employees about most recent developments. The townhall meeting could also coincide with department drinks; an informal opportunity to get to know each other and continue the discussion started in the townhall meeting.

Chapter 10:

Reflection

There is a lot to reflect about in this project. In this chapter I reflect on the research, and my role as a researcher in the research context. I briefly reflect on my personal learnings during this project.

Doing research

Doing research while being part of your research context is not easy. As I conducted my research I found that I influenced the context. This became particularly apparent to me during the interviews with team-members. For example, during these interviews I asked every team-member what they thought the role of a Product Owner should be. Two weeks after a series of interviews I sat in on a bi-weekly meeting, where this particular topic about 'my' team was raised by one of the managers. I can't conclusively state that my 'probing' during the interviews had anything to do with this, but it stood out too me as a possible connection. Similarly, a few weeks later one of the managers pointed out to me that he noticed discussions around the department about roles, responsibility and strategy, attributing these discussions to me being in the department.

At the start of the research I was not aware of my influence on the department, in this way. And still, I find it difficult to spot the influence I'm having as a researcher. From my point of view, it is 'normal', whereas through the eyes of more experienced employees or managers, these situations and discussions are new. For my research this means that the results are very specific for this context, in this point of time, with my presence as a researcher. When trying to draw broadly applicable lessons from this research that context has to be taken into account.

On a personal level I now understand that my presence can not only influence research, but everything in an organisation. This means that you have to be conscious of what you're doing, and this is a skill I'm trying to develop now.

My role

I found the role of being a researcher to be challenging. As a researcher, I saw it as my job to observe, analyse; to learn. Not to solve problems. Being a designer and someone who wants to take responsibility, it was sometimes difficult for me not to switch to 'problem solving'-mode. One example of this occurred when an urgent request for the product team to deliver a working version of the product by a specific date. Understanding where this request came from I immediately jumped into the role of 'project manager'; in my head already making a plan to solve the problem. Thirty seconds later, however, and I noticed that the team had a different response, which reminded me to approach this problem as an observer, not a manager. I've grown attached to the 'well-being' of the department and the products it makes, but that attachment makes it difficult to take an objective perspective to study what happens. In the end I did a bit of both, by using design interventions to both study a problem, and solve a problem.

In general I did not like my role as a researcher. It's the prospect of hands-on solving problems that gives me energy, not observing and reporting problems. However, there is one aspect of being a researcher that I've really come to appreciate; shutting your mouth, and listening. I'm quick to give an opinion on something, but during this project I tried as much as possible to constrain this impulse. Instead, I listen, and increasingly, I watch. I listen to what people have to say, and I watch the body language of others in the room. Occasionally, I draw a conclusion based on these observations, and share it with whoever it concerns. I've found this 'skill' of listening to be really useful to understanding the problems in an organisation.

Distance

I've loved my time at AT. Throughout these months I not only became part of the Schedule-Tool team, but the 'big team' (AT), as well. During this project I got very involved in the strategy, culture and organisational structure of AT. In writing this report, I had to let go of most of these things, but during my research, it caused me to become attached to the team-members, well-being and products AT makes. The clearest example for me of this is my susceptibility to

sensing a drop in motivation of team-members. Throughout interviews and informal conversations I quickly pick up signals that indicate frustration or lack of motivation, and immediately alarm-bells start ringing.

The biggest challenge of this attachment is creating distance between myself and the research subject in order to spot 'patterns'. It is very easy (and fun!) to get 'sucked in' into the day-to-day 'operations' of the department. You learn a lot, you do a lot, you make a lot of notes, but in the end; how much does it really contribute to your research?

Focussing is hard. Looking back, I understand now that everyone prompted me to scope 'down', make it smaller; make it focussed. I, a little bit stubborn, refused to do so, instead scoping out to solve an even bigger problem. Maybe that's a bit too ambitious. But I do not regret doing this. My final design is created for the Schedule-Tool product team, but the culture book I designed will hopefully have a much larger impact on the department as well. I feel that thinking through what we are making, and how we want to make it, is now equally as important as making sure the Schedule-Tool project team performs.

You could argue that it is not my responsibility to solve that bigger problem. And you would be right. Maybe that is something I need to learn not to do. But I would also be sad to lose the ambitiousness. It's a balance between understanding your place, wedging yourself in between someone else's problem, and wanting to contribute to 'the big picture'.

In any case, focussing is difficult, not fun, yet ultimately more productive if you want just one 'small' problem to be solved. It's just a matter of finding the problem you want to focus on.

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