



# DESIGNING ORGANISATIONAL REVOLUTION

exploring the role of design in the quest for progressive organisations

APPENDICES





# **DESIGNING ORGANISATIONAL REVOLUTION**

exploring the role of design in the quest for progressive organisations

## **Master Thesis**

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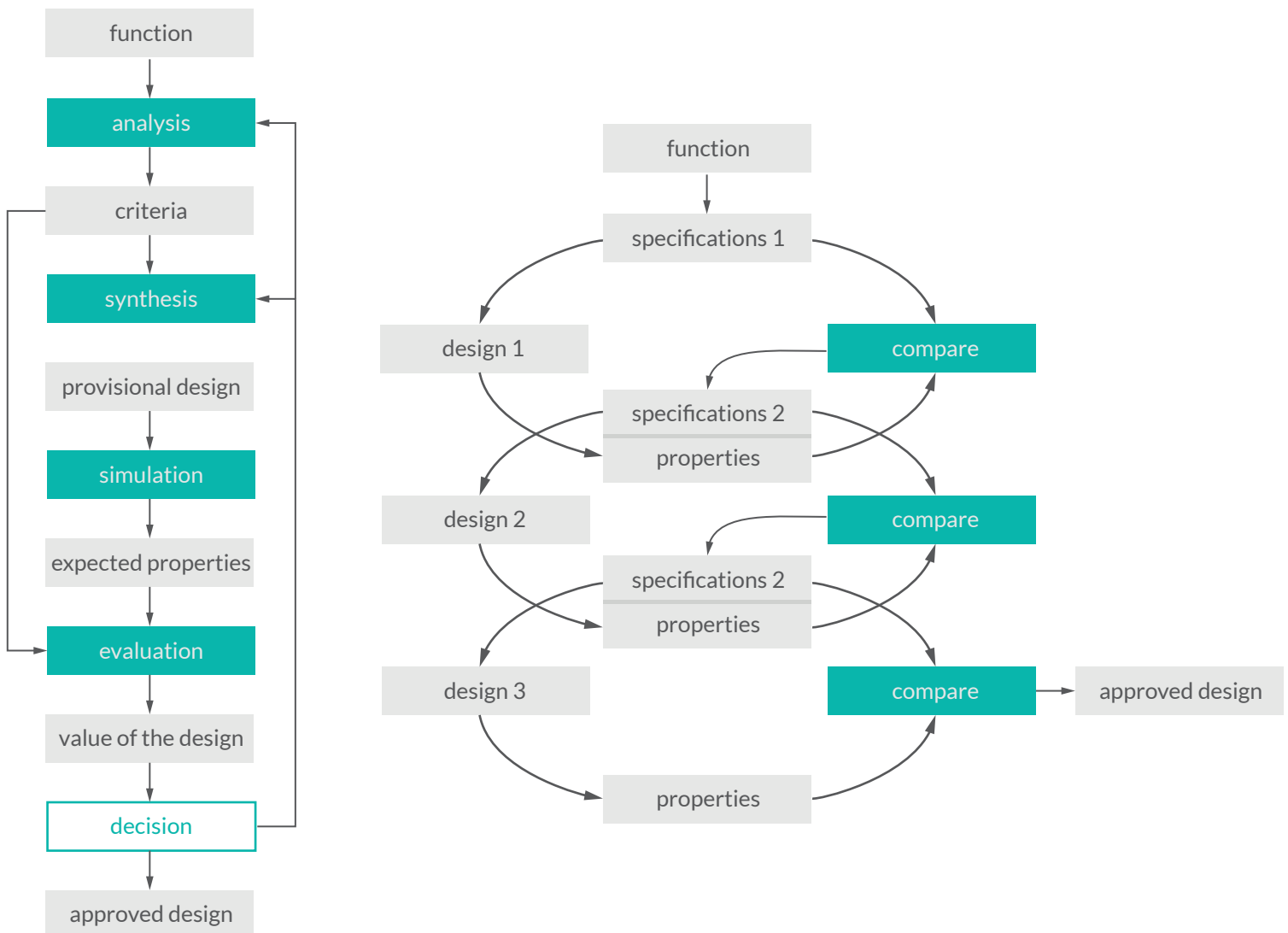
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# APPENDIX A

Below, you will find the two figures that reflect the basic design cycle by Roozenburg & Eekels, as referenced in chapter 2.1.







# APPENDIX B

## Understanding prototypes

In creating progressive organisations, the empathy, tolerance for failure and iteration explained to be part of design can play an important role. These principles come together in prototyping. As per Coughlan et al. (2007), there are three reasons why prototyping can help facilitate behavioural change in the organisation: building to think, learning faster by learning early (and often) and giving permission to explore new behaviours. For creating organisational agility, I propose a heavy emphasis on prototyping, to quickly help eliminate uncertainty and ambiguity, amongst other reasons. Prototypes are essential when using an iterative process, in that they are easily made and instantly tangible. In iterative processes, failure is inevitable (and a positive trait, as it generates new learnings) and prototypes enable resource-limited, or cheap failures.

The word prototype is probably a familiar word to you. According to the Merriam-Webster dictionary<sup>i</sup>, the word comes from the ancient Greek 'proto', meaning first of its kind and 'typos': form or impression. Though many confuse it with archetype<sup>ii</sup>, meaning the original model of which all things of the same type are representations, or the perfect example, a prototype more often refers to an early version of something.

The act of prototyping is a familiar one in many academic and business fields. In many design and engineering fields, prototypes are used in various forms and for various purposes (Buchenau, 2000; Brandt, 2006; Lim et al., 2008). So even though anyone will have a basic understanding of the meaning of prototype, the detailed

aspects will probably vary from person to person.

## Definition of a prototype

For the purpose of this thesis, a solid definition for a prototype must be found. Based on research into the different views on and definitions of a prototype (Buchenau, 2000; Brandt, 2007; Lim et al., 2008; Verba, 2008; Kelley & Kelley, 2013; Cao, 2015; Jensen, Elverum & Steinert, 2017) this definition will be:

***“A prototype is an incomplete version of (part of) a product, service, process or system, produced during its development.”***

## Benefits to prototyping

There are many benefits to, and thus reasons for, prototyping, see the next page. These may apply to various kinds of situations, so not just in the case of creating organisational agility. They just as well apply to, for example, prototyping in an app development process.

Prototyping helps with communicating & collaborating, as it provides internal and external stakeholders of a project with a shared and focused goal to work towards (Cao, 2015; Verba, 2008) by means of a focused discussion (Stappers & Flach, 2014). This is because, in making the abstract more tangible (Stappers & Flach, 2014) and explicit (Coughlan et al., 2007), it eliminates or drastically decreases the chance of misinterpretation (Cao, 2015) within or outside of the team or organisation. This way, prototypes often act like boundary objects (Menold et al., 2017; de la Rosa et al., 2017). Prototypes get the right people in the room

<sup>i</sup> "Prototype | Definition" <https://www.merriam-webster.com/dictionary/prototype>. Accessed 15 Feb. 2018.

<sup>ii</sup> "Archetype | Definition" <https://www.merriam-webster.com/dictionary/archetype> Accessed 15 Feb. 2018.





communicating & collaborating



confronting the unknown



setting priorities & forcing decisions



learning fast through failing in action



selling your idea



acting as a living checklist



implementing immediately & iteratively



keeping multiple concepts



showing willingness to explore

communicating in the right ways and because of this, they enable direct input from multiple stakeholders (Cao, 2015; Verba, 2008; Kelley & Kelley, 2013; Coughlan et al., 2007).

Coughlan et al. (2007) also argue that, as a manager, engaging in the process of prototyping (or even merely letting your employees engage in it) shows a willingness to explore new behaviours. This is clearly important when trying to alter the status quo. By letting people confront the unknown and fail, some sort of permission is given to deviate. On top of this, having a physical artefact present (in whichever way this might be) also triggers a more active and conscious form of reflexivity on the process and the status quo. In a way, the prototype acts as what is called a rational override (van Lieren, 2017).

The process of creating prototypes helps in confronting the unknown – they are knowledge generators; both of the phenomenon itself, and the world around it (Stappers & Flach, 2014; Sleeswijk Visser, 2014). As such, the (design of the) prototype creates a setting that lets all stakeholders experience the new future of the solution under construction (Cao, 2015), since the prototype already changed the world by being in existence (Stappers & Flach, 2014).

There is a constant stream of actions and decisions to be made – hypotheses to be tested (Stappers & Flach, 2014). After every action or decision, new questions will pop up that must be answered. In choosing which to answer, prototyping also forces teams to set priorities in the process (Cao, 2015), such as deciding which decisions to make, which direction to go etc... At the same time, the opposite holds true; prototypes do allow for keeping multiple concepts alive simultaneously (Kelley & Kelley, 2013; Dow et al., 2010), to postpone

judgement. In any case, prototypes can act as a form of living checklists (Luijkx, 2017), in the sense that they make tangible those decisions that have been made and act as a hook for those that haven't yet. What has been done is as clear as what hasn't been done.

Prototyping helps teams to learn fast, by failing in action (Cao, 2015; Kelley & Kelley, 2013; Coughlan et al., 2007). In doing so, the feasibility and usability (and perhaps even viability) of the concept under development can be continuously evaluated and improved upon. Though failure doesn't necessarily seem a positive concept, it is a human trait we can't really escape. The benefit of failing early is that most failures will probably be low-impact failures (Cao, 2015; Kelley & Kelley, 2013; Coughlan et al., 2007) with little ramifications (and probably relatively low sunk costs) for the overall business. As Coughlan et al. (2007) put it:

*“[...] if we acknowledge that (a) failure produces powerful learning for an organisation and (b) seldom is the first solution to a problem the best one, then it stands that one can help an organisation reduce risk by lowering the cost of learning.”*

Through this continual improvement and concrete nature, prototyping can help with implementing (organisational change) immediately and iteratively. Under the right circumstances, prototypes help minimise the chance for various kinds of problems to overwhelm implementation (Norman & Stappers, 2016) by breaking up the process.

This quick and dirty approach to concept development helps avoid the attachment (or investment) trap (Coughlan et al., 2007) – where it is difficult to move on from a certain idea or concept, since you've fallen in love with it or feel too much resources (sunk costs) have



already been put into it to simply let it go. By ditching a failure early-on, there is no time to become attached or to over-invest. Prototypes are (more) easy to let go of than full-blown solutions (Kelley & Kelley, 2013).

Unsurprisingly, prototypes help with selling your idea (Cao, 2015; Verba, 2008; Kelley & Kelley, 2013). The concrete is more easily to grasp than the abstract, so it's also easier to sell. Product presentations, such as the famous iPhone launch by Steve Jobs in 2007, often make use of prototypes. At design consultancy IDEO, they even developed and adhere to Boyle's Law (named after IDEO partner Dennis Boyle: never attend a meeting without a prototype (Kelley & Kelley, 2007)).

## Pit-falls of prototyping

Of course, there are downsides to the prototyping process as well, mostly in the form of pitfalls that should (and often can) be avoided. Prototypes are often put together quickly. As a result, it's not always possible for prototypes to scale up or be reused in later stages. So even if a prototype is working, sometimes new prototypes have to be built for further testing, taking up precious time and resources (Callahan, 2017).

Moreover, prototyping is quite resource-intensive. On top of this, every new variable that is tested will add up to the overall development time. This might seem negligible at first, since prototypes are fast to create, but if several new needs are discovered throughout the prototyping process, these minor delays can add significantly (Callahan, 2017). Therefore, it is recommended to set certain boundaries to the process if timings need to be met.

Fidelity (Buchenau, 2000) is another issue (Verba, 2008). If fidelity of the prototype is either too high or too low, this might pose problems. Not only does creating

a prototype with too much fidelity result in wasted time, it might also focus attention on wrong details. In the case of prototyping a physical environment for example, adding colour or texture to a floor plan might have people discussing the shade of it, even though the mock-up was meant to investigate the lay-out of desks. It might also make people interpret a prototype as a done deal, limiting their willingness to give input. If fidelity is too low, prototypes might not be taken seriously, or their value might be perceived as low. To tackle this issue and that of resource-intensiveness, it is advisable to choose the easiest to fabricate (i.e. lowest-fidelity) prototype that remains effective. This ensure the prototype can be built quickly and inexpensively but still provide the information that the designer is looking for (Ulrich & Eppinger, 2011). A possible solution is to increase fidelity (and thus functionality) of the prototype over time, as the project progresses (Yang, 2005). Like many aspects of design practice, being able to do so is a skill that is gained over time with experience and depends highly on gut-feeling.

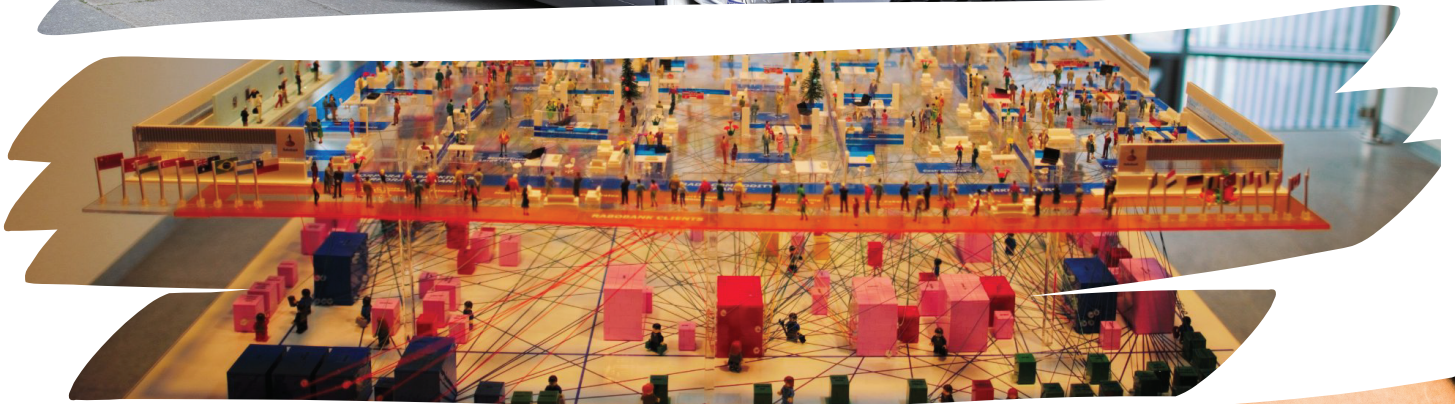
Next to this, it's a common problem to over-engineer the prototyping process (Verba, 2008) and, in doing so, to deviate from the problem at hand. Focus shifts from solving the right problem to the process of prototyping. In the end, you lose track of the actual problem itself and might end up solving the wrong problem altogether.

Finally, it is difficult to annotate prototypes (Verba, 2008). In other words, the prototype at hand shows only the final result of the work done up until that point, and not the decisions that brought it there. A certain parameter of the prototype (like the amount of desk space available in the new environment) might be the result of chance, or the result of extensive testing and elaborate discussion. For outsiders, this is impossible to know, especially without accompanying information.

So, even though prototypes can act as checklists to make tangible which parts of the process have been addressed, this doesn't apply to the various aspects of prototypes themselves. This shortcoming is especially important to consider when handing over prototypes or prototyping results to others, both internal or external to your team or organisation.

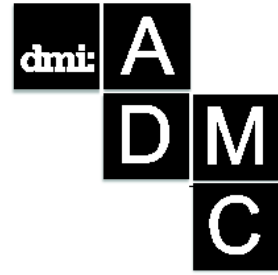
## Forms of prototypes

As becomes clear in the text above, prototypes can take infinite forms (see examples to the right). From very concrete, to more abstract kinds of prototypes. A concept car, for example, is a well-known and concrete form of prototyping. Prototyping a service through role-playing might be more abstract. In the case of this approach, prototypes can take any number of forms. Actual teams of employees can start testing the new approach in a different room, or a different building. Mock-ups of any aspect of the new organisation can be made on a table, wall or floor plan. All aspects of the new reality can be prototyped, to see whether they will work or not.



# APPENDIX C

The following pages contain the paper submitted to the 21st DMI: Academic Design Management Conference, held in London on 1-2 August, 2018. It represents the first output of my research and an earlier understanding of the concepts iterated upon to produce the findings laid out in the thesis.



21st DMI: Academic Design Management Conference

Next Wave

London, UK, 1-2 August, 2018

## ***Prototyping for organisational agility: Using the fundamentals of design to manage changing circumstances***

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*In our current and turbulent times, it is clear that some sort of organisational agility, in which-ever way achieved, is necessary to survive and thrive as an organisation. The question is how to achieve such manoeuvrability. We propose the use of design (thinking), with a focus on prototyping to iteratively develop greater organisational agility. Based on literature research into the circumstance that drive change, design, prototyping and a number of organisations that seem to have incorporated the right tactics, as well as observations made at a change-programme for a large Dutch corporate, we have developed a model to guide this process. The model proposes that an organisation should focus on developing a shared sense of purpose, to guide all its undertakings. Afterwards, employees should collaborate on iteratively creating the right (digital & physical) environments, culture and personal grounding for them and the organisation, to be able to achieve this purpose. Based on certain (dynamic) criteria and these various domains, personal responsibilities (action agendas) may constantly evolve and keep the organisation agile. This paper explains the reasoning behind the model and calls for further experimentation to take place to verify its effectiveness.*

**Keywords:** Organisation, Agility, Fundamentals, Framework, Prototypes

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## Introduction

Changing circumstances have forced many organisations to pursue organisational agility. Adapted from Ahlbäck et al., 2017, our definition for organisational agility is: ‘the ability to quickly and adequately reconfigure strategy, structure, processes, people, and technology toward value-creating and value-protecting opportunities in order to maintain or increase performance, while fulfilling the company purpose and/or customer promise.’ In order to work out variations on agility, we explore the use of prototyping, as a key factor of iteration in design research, to achieve increased agility within an organisation over time.

### *Changing circumstances*

With the advent of the digital age (i.e. the widespread use of broadband internet, smartphones, tablets, social media etc.), companies have started to be subjected to increasing competitive pressure (Ahlbäck et al., 2017). The competitive landscape in which they operate changes at an ever greater speed. Many companies still struggle with their current approach to digitisation (Bughin et al., 2018), with the next wave of large digital change influences (Big Data and AI) already underway. These developments have come at an almost incomprehensible pace for current businesses. They struggle implementing them in their current product and service offerings, as well as their workplace. At the same time, incumbents adept at these technologies sprout out of nowhere, leaving existing organisations vulnerably behind (Gruber et al., 2015).

Meanwhile (and possibly partly as a result of these technological changes), demands on the organisation have greatly increased as well (Ahlbäck et al., 2017); products and services developed by organisation to satisfy user needs are subject to higher and higher expectations and consumers are demanding near non-stop lines of coherent and personal communication (i.e. relationships) with companies (Kotler & Armstrong, 1980) as a result of ever greater social media presence. Through servitisation of many value-propositions, companies have created an environment where a constant (critical) dialogue with consumers is possible and necessary. These and other developments force companies to change.

As Gardien & Deckers (2015) wrote: “Following the paradigm shift from the industrial and experience economy to the knowledge economy, we live in a world of constant and rapid change; one in which users expect evolving, personal experiences.” The old business paradigms of efficiency through



bureaucracy, work flow optimisation and task specialisation, Weberism, Taylorism & Fordism, have become outdated in light of this increased demand for flexibility of the organisation, and a stronger emphasis on the needs of employees. Optimising one's company in such ways simply isn't going cut it anymore.

These approaches of scientific and bureaucratic management lead to the omnipresent organisational silos, which hinder agility (Ahlbäck et al., 2017) through lack of collaboration and communication (Pullin, 1989) and are often aimed at achieving local goals, with a focus on risk-aversion (Bughin et al., 2018). This realisation comes at a time characterised by an ongoing competition for talent (Gruber et al., 2015), where employee expectations have greatly increased. The new labour force, generation Y, has different expectations from those before them. They want to be able to pursue personal growth in a job that also provides them with a meaning, while also having some form of flexibility (Gruber et al., 2015). Vielmetter & Sell (2014) write that a culture of openness, knowledge sharing, and more employee autonomy is becoming more important with rising individualism (which was enhanced by the rise of the internet and social media). The aforementioned technologies blur the boundaries between work, rest and play, and have the power to transform the workplace experience; employees are also consumers and have grown accustomed to smooth digital experiences outside of their work, which they now seek in their workplace environment as well (Gruber et al., 2015). Morgan (2017) argues that investments in the employee experience, where organisations create a workplace where people want to – not just need to – work, lead to 'larger talent pipelines'. His research also shows that results include happier employees and greater profitability & productivity – with companies investing in employee experience outperforming those that don't by large margins.

Finally, changes in regulations may occur at any moment in time and force organisations to adjust any number of aspects crucial to their existence (Ahlbäck et al., 2017). A solid example of such a change is the 2016/2018 General Data Protection Regulation – a consolidation of all EU data protection laws that has resulted in large-scale compliance programmes that, for example, should include cross-functional task forces (Mikkelsen, 2017).

These circumstances are summarised in Table 1.

Table 1: Summary of changing circumstances.

Competition	From the competitive playing field, i.e. others with a similar value proposition.
	For the acquisition of talent.
Demand	From customers – partly driven by increased customer control, as well as greater servitisation of many value propositions, which enable a more constant dialogue.
	From employees – partly driven from their experiences as customers of other companies, as well as their generation’s expectations (such as meaning and self-development).
Technology	New possibilities for value propositions.
	Digitisation (& thus servitisation) of value propositions, especially threats from incumbents.
Regulations	Changes might come up at any time and force organisation to adjust any number of aspects crucial to their existence.

This paper presents a conceptual model for creating organisational agility, based on the principles of design and prototyping in particular. Said model was created through extensive literature review, as well as observations made during a set of medium-scale change events at a large Dutch corporate organisation.

### *Applying design (thinking)*

The circumstances outlined above force organisations to pursue organisational agility, but the question remains: ‘how?’ Design has increasingly been used to solve more abstract and complex problems and even the design of complex (sociotechnical) systems. In doing so, design has gone beyond its initial workings and philosophy. From roots in craft-like product creation, through the industrialised mass-manufacturing of products, design has evolved. The past decades, design has come to encompass the fields of interfaces, interactions and experiences, and after that even services and whole systems (Norman & Stappers, 2015). Design has come to a point where it is a combined state of mind and a more or less fixed set of tools, steps and processes to solve wicked and ill-defined problems – which creating organisational agility qualifies to be. It is an iterative problem-solving process, where desirability, feasibility and viability are constantly balanced. We argue that design can be well-suited for helping in the creation of organisational agility.

'The main goal of design as a discipline is to promote wellbeing in people's lives.' (Mauricio et al., 2012). To do so, designers find situations that are in some way disruptive to this wellbeing, identify the underlying problem (the cause of the disruption) and generate solutions for that problem. Clearly, the case of creating organisational agility reflects this goal, as working for an organisation that is inapt at dealing with current and future realities can be disruptive to wellbeing in various ways. For many, the focus in of design is the human; and design is often called human-centred (Brown, 2016). More recently, however, the balance between human, technology and business has been emphasised, as per Tim Brown's quote at the beginning of this chapter, and as explained by Calabretta, Gemser & Karpen in their book 'Strategic Design' (2016). They speak of balancing desirability, feasibility and viability.

Design thinking can be viewed as a mind set (Riverdale + IDEO, 2011), or a set of principles – such as empathy with users, a discipline of prototyping and a tolerance of failure (Kolko, 2015). As described above, the application of these principles is often non-linear and iterative. Both this balance and non-linear application will be reflected in our model to organisational renewal as presented below.

### *A focus on prototypes*

In creating organisational agility, the above-mentioned empathy, tolerance for failure and iteration can play an important role. These principles come together in prototyping. As per Coughlan et al. (2007), there are three reasons why prototyping can help facilitate behavioural change in the organisation: building to think, learning faster by learning early (and often) and giving permission to explore new behaviours. Thus, for creating organisational agility, we propose a heavy emphasis on prototyping, to quickly help eliminate uncertainty and ambiguity, amongst other reasons. Prototypes are essential when using an iterative process, in that they are easily made and instantly tangible. In iterative processes, failure is inevitable (and a positive trait, as it generates new learnings) and prototypes enable resource-limited, or cheap failures.

For the purpose of clarity, a solid definition for a prototype must be found. Based on research into the different views on and definitions of a prototype (Buchenau, 2000; Brandt, 2007; Lim et al., 2008; Cao, 2015; Verba, 2008; Kelley & Kelley, 2013; Jensen, Elverum & Steinert, 2017) this definition will be: "A prototype is an incomplete version of (part of) a

product, service, process or system, produced during its development.” In the context of this paper, of course, the focus lies with prototyping processes and systems, as organisations can be viewed as a mix of these.

### **Benefits to prototyping**

There are many benefits to, and thus reasons for prototyping. These may apply to various kinds of situations, so not just in the case of creating organisational agility. They just as well apply to, for example, prototyping in an app development process.

Prototyping helps with communicating & collaborating, as it provides internal and external stakeholders of a project with a shared and focused goal to work towards (Cao, 2015; Verba, 2008) by means of a focused discussion (Stappers & Flach, 2014). In making the abstract more tangible (Stappers & Flach, 2014) and explicit (Coughlan et al., 2007), it eliminates or drastically decreases the chance of misinterpretation (Cao, 2015) within or outside of the team or organisation. This way, prototypes often act like boundary objects (Menold et al., 2017 ; de la Rosa et al., 2017). Prototypes get the right people in the room communicating in the right ways and because of this, they enable direct input from multiple stakeholders (Cao, 2015; Verba, 2008; Kelley & Kelley, 2013; Coughlan et al., 2007).

Coughlan et al. (2007) also argue that, as a manager, engaging in the process of prototyping (or even merely letting your employees engage in it) shows a willingness to explore new behaviours. This is clearly important when trying to alter the status quo. By letting people confront the unknown and fail, some sort of permission is given to deviate. On top of this, having a physical artefact present (in whichever way this might be) also triggers a more active and conscious form of reflexiveness on the process and the status quo. In a way, the prototype acts as what is called a rational override (van Lieren, 2017).

The process of creating prototypes helps in confronting the unknown – they are knowledge generators; both of the phenomenon itself, and the world around it (Stappers & Flach, 2014; Sleeswijk Visser, 2014). As such, the (design of the) prototype creates a setting that lets all stakeholders experience the new future of the solution under construction (Cao, 2015), since the prototype already changed the world by being in existence (Stappers & Flach, 2014).

There is a constant stream of actions and decisions to be made – hypotheses to be tested (Stappers & Flach, 2014). After every action or decision, new questions will pop up that must be answered. In choosing which to answer, prototyping also forces teams to set priorities in the process (Cao, 2015), such as deciding which decisions to make, which direction to go etc... At the same time, the opposite holds true; prototypes do allow for keeping multiple concepts alive simultaneously (Kelley & Kelley, 2013; Dow et al., 2010), to postpone judgement. In any case, prototypes can act as a form of living checklists (Luijckx, 2017), in the sense that they make tangible those decisions that have been made and act as a hook for those that haven't yet. What has been done is as clear as what hasn't been done.

Prototyping helps teams to learn fast, by failing in action (Cao, 2015; Kelley & Kelley, 2013; Coughlan et al., 2007). In doing so, the feasibility and usability (and perhaps even viability) of the concept under development can be continuously evaluated and improved upon. Though failure doesn't necessarily seem a positive concept it is a human trait that we can't really escape. The benefit of failing early is that most failures will probably be low-impact failures (Cao, 2015; Kelley & Kelley, 2013; Coughlan et al., 2007) with little ramifications for the overall business. As Coughlan et al. (2007) put it: "[...] if we acknowledge that (a) failure produces powerful learning for an organisation and (b) seldom is the first solution to a problem the best one, then it stands that one can help an organisation reduce risk by lowering the cost of learning." Through this continual improvement and the concrete aspect of it, prototypes can help with implementing (organisational change) immediately and iteratively. Under the right circumstances, this helps minimise the chance for various kinds of problems to overwhelm implementation (Norman & Stappers, 2016) by breaking it up.

This quick and dirty approach to concept development helps avoid the attachment (or investment) trap (Coughlan et al., 2007) – where it is difficult to move on from a certain idea or concept, since you've fallen in love with it or feel too much resources have already been put into it to simply let it go. By ditching a failure early-on, there is no time to come attached or to over-invest. Prototypes are (more) easy to let go of (Kelley & Kelley, 2013).

Unsurprisingly, prototypes help with selling your idea (Cao, 2015; Verba, 2008; Kelley & Kelley, 2013). The concrete is more easily to grasp than the abstract, so it's also easier to sell. Product presentations, such as the famous iPhone launch by Steve Jobs in 2007, often make use of prototypes. At design consultancy IDEO, they even developed and adhere to Boyle's Law

(named after IDEO partner Dennis Boyle: never attend a meeting without a prototype (Kelley & Kelley, 2007)).

### **Pitfalls of prototyping**

Of course, there are downsides to the prototyping process as well, mostly in the form of pitfalls that should (and can often) be avoided. Prototypes are often put together quickly. As a result, it's not always possible for prototypes to scale up or be reused in later stages. So even if a prototype is working, sometimes new prototypes have to be rebuilt for further testing. Taking up precious time and resources (Callahan, 2017).

Although there are many benefits, prototyping is quite resource-intensive. On top of this, every new variable that is tested will add up to the overall development time. This might seem negligible at first, since prototypes are fast to create, but if several new needs are discovered throughout the prototyping process, these minor delays can add up to a significant one (Callahan, 2017). Therefore, it is recommended to set certain boundaries to the process if timings need to be met.

Fidelity (Buchenau, 2000) is another issue (Verba, 2008). If fidelity of the prototype is either too high or too low, this might pose problems. Not only does creating a prototype with too high of a fidelity result in wasted time, it might also focus attention on wrong details. In the case of prototyping a physical environment for example, adding colour or texture to floor plan might have people discussing the shade of it, even though the mock-up was meant to investigate the lay-out of desks. It might also make people interpret a prototype as a done deal, limiting their willingness to give input. If fidelity is too low, prototypes might not be taken seriously, or their value might be perceived as low. To tackle this issue and that of resource-intensiveness, it is advisable to choose the easiest to fabricate (i.e. lowest-fidelity) prototype that remains effective. This ensure the prototype can be built quickly and inexpensively but still provide the information that the designer is looking for (Ulrich & Eppinger, 2011). A possible solution is to increase fidelity (and thus functionality) of the prototype over time, as the project progresses (Yang, 2005).

Next to this, it's a common problem to over-engineer the prototyping process (Verba, 2008) and, in doing so, to deviate from the problem at hand. Focus shifts from solving the right problem to the process of prototyping and thus the wrong problem might be solved.



Finally, it is difficult to annotate prototypes (Verba, 2008). In other words, the prototype at hand shows only the final result of the work done up until that point, and not the decisions that brought it there. A certain parameter of the prototype (like the amount of desk space available in the new environment) might be the result of chance, or the result of extensive testing and elaborate discussion. For outsiders, this is impossible to know, especially without accompanying information. Thus, this shortcoming is especially important to consider when handing over prototypes or prototyping results to others, both internal or external to your team or organisation.

This research is summarised in Table 2.

### **Forms of prototypes**

As becomes clear in the text above, prototypes can take infinite forms. From very concrete, to more abstract kinds of prototypes. A concept car, for example, is a well-known and concrete form of prototyping. Prototyping a service through role-playing might be more abstract. In the case of this approach, prototypes can take any number of forms. Actual teams of employees can start testing the new approach in a different room, or a different building. Mock-ups of any aspect of the new organisation can be made on a table, wall or floor plan. All aspects of the new reality can be prototyped, to see whether they will work or not.

*Table 2: Summary of research into prototyping benefits and pitfalls.*

Benefits	Enhances communication & collaboration through tangibility and shared goals, views etc.
	Shows willingness to explore new directions (i.e. behaviours, services etc.).
	Helps to confront the unknown (both of the phenomenon and the world around it).
	Forces decision-making & priority setting through its creation.
	Allows for multiplicity: keeping alive multiple options simultaneously.
	Helps learning through failures.
	Relatively low cost enables avoiding the attachment trap.
Potential pitfalls	Prototypes aren't always scalable or reusable as a result of their 'quick-and-dirty' nature.
	Prototyping can be quite resource-intensive, especially in testing large numbers of variables
	Fidelity can cause problems if chosen either too high or too low.

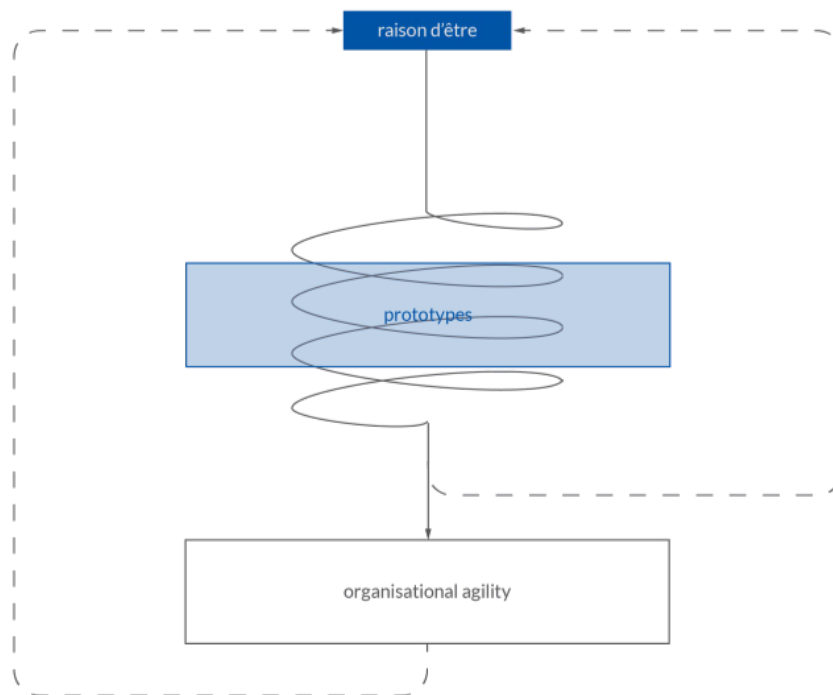
	Over-engineering the process can cause focus to shift away from the actual problem.
	Prototypes can't be annotated well; thus, past decision might be lost in translation.

## Prototyping agility model

A model for prototyping organisational agility was created based on the insights into design and prototyping as mentioned above. The model consists of various elements, backed up by extensive literature research, as well as observations by the first author of a change effort at a Dutch corporate. Below, the structure and elements of the model are explained step by step. For most of the elements, recommendations are provided on how to maximise organisational agility when dealing with that element.

### *Raison d'être*

First, create a manifest (Schein, 2004); a shared purpose and direction that guides the organisation as a whole, as well as the different teams within (Aghina, 2017). The purpose should describe a line on the horizon for both these levels. We speak of a line, not of a dot, since your present situation can never precisely predict where you'll end up in the future. Research into progressive and agile companies (Minnaar & de Morree, 2017) shows that a focus on purpose and values is more effective than a focus on profits. The organisation and its purpose should be driver-led, based on shared values. This way, changes in e.g. processes, technology, people won't fundamentally alter the core of the company. A purpose enables agility; most of the changes the organisation undergoes are to better reach the purpose. Also, it provides employees with a true meaning in their job and a shared sense of purpose they can work towards together. A good purpose should help people feel personally and emotionally invested (Aghina, 2017) in the project and their job.



*Figure 1 Model showing the iteration from purpose (raison d'être) to agility. Note the various feedback loops back to the purpose, after learnings have taken place.*

Use this “North Star” (Aghina, 2017), to start working towards this new agile organization (see Figure 1). Approach the situation as a design problem; i.e. use iterations to work towards a constantly improving solution. Test assumptions and learn from them, either by confirming they fit, or by finding the aspects that make them fail and making sure they won't be used in later iterations.

When it comes to the elements that constitute an agile organisation, we propose to focus on five distinct subjects: environments, culture, grounding, action agendas and criteria. These elements are detailed below.

### *Environments*

In order to motivate and facilitate your employees, create inspiring and open physical and digital environments (Aghina et al., 2017) for the organisation's staff to work in (Gruber et al., 2015). The environment should suit the company culture and (different) ways of working, as well as facilitate the newly developed groundings, or (in)formal positions and relationships of the employees towards each other. The digital environment

should enable employees in their daily tasks. As a result of an open culture, these apps and services should provide them with real-time transparency and data (Minnaar & de Morree, 2017), in order to help with distributed decision making (Kniberg, 2014-1). In current times, these digital solutions should be designed to be on-par with customer-centred apps and services (Myerson & Ross, 2013 cited by Gruber et al., 2015), so their use facilitates, but does not distract from or complicate the task at hand.

### *Culture*

Design an open culture, where constant communication and collaboration take place in various (in)formal ways. The culture, like the grounding of employees, should constantly change. Experimentation and adaptation (i.e. iteration) should be key (Aghina et al., 2017), at Spotify, for example, they talk of a fail-friendly environment, where failure is key to learning. Their solution is to minimise the risk of failures ('creating limited blast radius'). This mind set should apply both towards the outside of the company (the products and services delivered by the organisation, as well as their competitors) and the inside (the culture, purpose, grounding etc.). Continuous learning should be a part of the organisation (Aghina et al., 2017) By engaging in radical transparency (Aghina et al., 2017), i.e. enabling easy access of as much information as possible to as many people possible, distributed decision making should be attainable (Kniberg, 2014-1). This provides freedom & trust (empowerment (Mahadevan et al., 2017) for employees, which are highly autonomous human beings (Minnaar & de Morree, 2017), and in turn should enable autonomy for all employees (whenever possible). Constant communication, together with an organisation driven by its drivers and purpose enables employees and teams to engage in aligned autonomy, as per Kniberg, 2014-1. Freedom and autonomy should not cause chaos, as everyone is ultimately responsible for their own performance. As a result, management should be supportive (Minnaar & de Morree, 2017) and hands-on (Aghina et al., 2017), and mainly work towards clearing impediments. This communication, as well as the shared purpose, the access to information and more, should lead to a cohesive community (Aghina et al., 2017) and thus help to eliminate the silos of old.

### ***Grounding***

Co-create a way for everyone to work together; define (in)formal positions and relationships for the employees towards each other. Remember that these might change as the company adapts, but that they provide some grounding to the employees while they stand. As Kniberg (2014-1) writes about Spotify, community is more important than structure. This is a good approach to ridding yourself from (organisational) silos. By using less formal structures, job descriptions and strict territories, anyone can find their (in)formal place (i.e. grounding) within the organisation. This enables constant change. This decrease in hierarchy and structure thus isn't merely a requirement for increasing agility of the organisation, it also acts as a catalyser for change. Of course, it's important that the organisation provides everyone with a formal place, but at the same time leaves room for everyone to find informal relationships and links as well. From the organisation's perspective, these groundings should look like constantly evolving networks of teams (or 'fit-for-purpose performance cells' (Aghina et al., 2017)), as opposed to set hierarchies (Minnaar & de Morree, 2017). Through the North Star, these teams can be loosely coupled, but tightly aligned (Kniberg, 2014-1). Given the opportunity, role mobility (Aghina et al., 2017) should then allow them to start working on dealing with these topics.

### ***Action agenda***

Instead of creating set-in-stone job descriptions, employees should work based on their talents and mastery of certain skills (Minnaar & de Morree, 2017). The constantly changing grounding (i.e. relationships & place), combined with a transparent and forward-looking culture should foster a dynamic action agenda for employees. This agenda should be based on talents and mastery of individuals' skills. This doesn't mean that employees can just do whatever they please. On the contrary, at any moment in time, all employee should be assigned clear and accountable roles (Aghina et al., 2017). However, employees across the organisation should proactively look for, for example, opportunities to create value, for changes in consumer preferences etc.

### ***Criteria***

The basic design cycle (Roozenburg & Eekels, 1995) states that, once there is some kind of goal to work towards, criteria must be set up to

measure the design. In this model, those criteria are twofold: constantly try to have some conditions for the process of change itself, as well as the various topics for the new agile organisation. A 'definition of done' should be provided for the change, to give some sort of indication into when the new approach can be implemented. When it comes to the various elements of the new organisation, these all need to be pre-defined in some way or the other as well. The criteria help in aligning the various blocks with one another. As an example: the physical environment should enable role mobility, and the digital environment should enable easy access to information.

The elements detailed above all come together in Figure 2. For these various elements, it is possible to iterate through the 'regular' ways of prototyping and by applying the design process. For example, the physical environments can be tested with table-top mock-ups, through sketches renders, or full-sized demos.

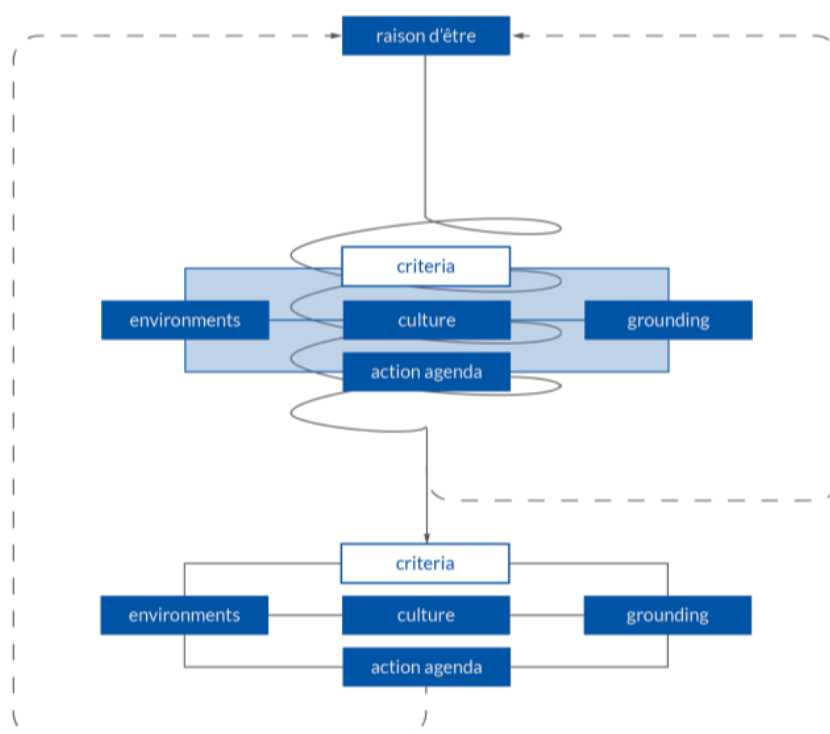


Figure 2 The agility model with the various elements filled in.



### ***Hard return***

From an organisational perspective, there comes a moment in time when the iterations (and prototyping) should stop, at least for a while. Endless prototyping, without actual implementation, won't achieve the desired results. From that point onwards, the decision must be made to 'just go with it' and employ those practices, environments etc. that have been developed over time. A hard return must be set, after which the new organisation, with all its facets is implemented quickly. From that point on, iteration can of course continue again. An example of such a hard return was the implementation of the new way of working at ING Netherlands (Mahadevan et al., 2017), where the entire way of working at the Dutch headquarters was changed following experimentation with just one team.

### ***Burning platform***

Finally, observations at a medium-sized change programme for a large Dutch corporate showed that it is important to create a sense of urgency for the process. This way, all layers of the organisation, but especially the employees in the involved teams, will have a tangible hook, a solid reason for the (potentially) large-scale changes that occur as a result of pursuing organisational agility. Decide on the one thing everyone agrees really needs to change to build a sense of urgency and momentum within the organisation (van Heerden, 2018). Of course, there are many more reasons (like the overarching reason of dealing with rapidly changing circumstance), but these are too abstract. Providing a tangible and concrete reason might help in convincing everyone to join the conversation and helps with the implementation of the changes in mind set and approach. In a way, this burning platform is an extra motivator, on top of the purpose. It's important, like with any step in the design process or when prototyping, to make the burning platform as tangible as possible, e.g. through storytelling or clear visuals.

By bringing all these elements together, we come to the Prototyping Agility Model, as depicted in Figure 3. Table 3, which is attached below that, highlights the various elements once more. It also provides examples of prototyping efforts, as well as the insights we have already gathered from the efforts so far. *Note that we are currently in the midst of our research and plan to increase our prototyping efforts 'in real life' at a large Dutch corporate over the coming months.*

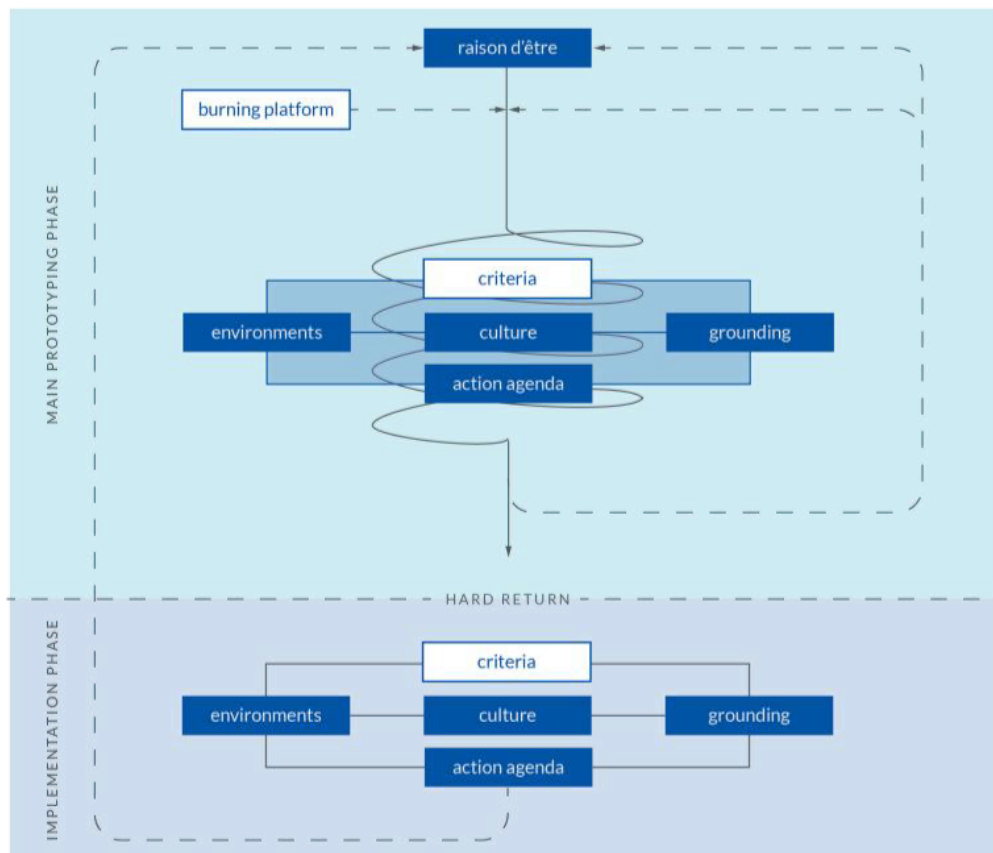


Figure 3 The Prototyping Agility Model.

Table 3: Summary of the Model elements, prototyping examples and status of said examples. Note that empty fields generally mean the researchers are in the process of prototyping this element, or plan to do so in the future.

Element	Basis	Prototyping examples	Status	Insights
Raison d'être	Create a manifest (Schein, 2004); a shared purpose and direction that guides the organisation as a whole, as well as the different teams within (Aghina, 2017). A focus on purpose and values is more effective than a focus on profits (Minnaar & de Morree, 2017). A good purpose should help people feel personally and emotionally invested (Aghina, 2017) in the project and their job.	Visualise (i.e. draw) a 'line on the horizon' in a shared session. Use LEGO to 'build the future'. Use a cleared wall to gather ideas for a purpose over an extended period of time. Laddering: iterate a vision by sending it for feedback to groups of random employees. Staging the purpose as a presentation with focus groups of employees.	Tested  Tested  Tested	The purpose needs to be personal enough to inspire, yet broad enough for everyone to feel included.  The purpose should be driver-led.  The purpose should be future-oriented but close enough to the present that it doesn't feel unattainable.
Environments	In order to motivate and facilitate your employees, create inspiring and open physical and digital environments (Aghina et al., 2017) for the organisation's staff to work in (Gruber et al., 2015). The digital environment should enable employees in their daily tasks.	<b>Physical</b> Use table-top mock-ups Create sketches (live) Order renders Co-create full-sized demos  <b>Digital</b> Create fake database links in Excel Mock-up screens, e.g. with InVision	       Tested Tested	

*Prototyping for organisational agility: Using the fundamentals of design to manage changing circumstances*

Culture	Design an open culture, where constant communication and collaboration take place in various (in)formal ways. The culture, like the grounding of employees, should constantly change. Experimentation and adaptation (i.e. iteration) should be key (Aghina et al., 2017).	<p>Create an experimental setting where one or more teams are allowed to 'play out' different cultures and grounding with their day to day activities.</p> <p>Use LEGO puppets, or other dummies to act out certain daily or weekly scenarios in the context of the newly proposed culture &amp; grounding.</p>	<p><i>To be further tested in the coming months. Preliminary results expected in July 2018.</i></p>	These elements need to be prototyped conjointly, as their underlying elements are similar and heavily influence one another.
Grounding	Co-create a way for everyone to work together; define (in)formal positions and relationships for the employees towards each other. Remember that these might change as the company adapts, but that they provide some grounding to the employees while they stand. As Kniberg (2014-1) writes about Spotify, community is more important than structure.	<p>Write out the new commandments and ideals of a desired culture and subsequently draw out the resulting groundings for all team members.</p>	Tested	
Action agenda	Instead of creating set-in-stone job descriptions, employees should work based on their talents and mastery of certain skills (Minnaar & de Morree, 2017). The constantly changing grounding (i.e. relationships & place), combined with a transparent and forward-looking culture should foster a dynamic action agenda for employees.	Create a 'backlog' & personal action agenda for a team and its members, and let them work as independently as possible to receive feedback.		
Burning platform	Create a sense of urgency for the process. This way, all layers of the organisation, but especially the employees in the involved teams, will have a tangible hook, a solid reason for the (potentially) large-scale changes that occur as a result of pursuing organisational agility. Decide on the one thing everyone agrees really needs to change to build a sense of urgency and momentum within the organisation (van Heerden, 2018)	Visualise the current situation, such that anyone can see what's wrong and what needs to change.		
Criteria	The basic design cycle (Roozenburg & Eekels, 1995) states that, once there is some kind of goal to work towards, criteria must be set up to measure the design. In this model, those criteria are twofold: constantly try to have some conditions for the process of change itself, as well as the various topics for the new agile organisation.			

## Discussion & conclusion

Our research set out to find a way to increase organisational agility, in light of the changing circumstance of today's world. We first outlined these changing circumstances and explained the subsequent reasons that force

organisations to change. This paper consolidated multiple literature studies on the changing circumstances of today's society, based on the themes identified by Ahlbäck et al. (2017): as changes occur in demand, competition, technology and regulations. While failing to react to these changes in an adequate manner may harm the organisation's future prospects, reacting to them in the right way might enable new value-creating opportunities and even competitive advantage (towards those failing to react). The goal of creating or increasing organisational agility can be seen as a both a wicked and ill-defined problem, thus design (thinking) was proposed as a method to help solving it. Lessons from practice and design research teach us that solving such problems requires iterative processes and a hands-on approach. Prototyping proves to help in such circumstances, as our elaborate research into the benefits and potential pitfalls shows.

The framework for creating organisational agility starts off with a clear purpose, or *raison d'être* for your organisation and its employees. A sense of urgency is created in the form of a burning platform, in order to gather even wider support for the change. Iteratively, work now progresses on the various elements of the new organisation: its culture, physical and digital environments, employee grounding and, as a result, the various action agendas of all employees. All of these elements can be prototyped in whichever way possible, to increase tangibility, communication and hosts of other aspects. All outcomes are compared to pre-set and evolving criteria. Once enough iterations have passed for the organisation to feel ready to commit, a 'hard return' is enforced and the new organisation takes effect. From this moment on, though there is no going back for the organisation, iteration should not stop. New learnings should be implemented continuously, and new iterative prototypes can still be made.

This paper has added to the body of literature on organisational agility. Though many magazine and journal articles are available that emphasise the need for organisational agility, and those that highlight (some of) the best practices of those organisations that have (partially) achieved it, literature on how to actually achieve such agility is (nearly) non-existent. The proposed framework for creating such agility, though still relatively vague and in its infancy, thus adds value to both the academic and business worlds. Both as a base for further research and as a concrete way of working towards organisational agility.

True to expectations, the framework presented above bears some resemblance of more general iterative (design) cycles, like the general design cycle developed by Roozenburg & Eekels (1995). However, the process differs significantly from such a descriptive and academic approach as well. During the research, we gradually realised that, in order to make the approach more practical and increase its feasibility in corporate environments, certain ‘concessions of reality’ should be made. The addition of the burning platform, an extra step to increase organisational awareness and support is an example of such an alteration.

As explained, the framework described in this paper mainly stems from literature research (as well as some real-world observations in a corporate environment). Though various aspects of the framework have already been iterated upon (and are being developed further at the moment of writing), the approach in its entirety has yet to be tested and perfected through iterations with actual organisations. To do so, we aim to prototype the various elements of the approach at one or more organisations, to collect (additional) feedback and find gaps in our knowledge. After that, the approach as a whole should also be scrutinised through testing. We invite others to do the same as well and notify us of their findings.

Sadly, though the researchers believe prototyping to be of unique importance, due to lack of time as well as the unique challenges of each situation, no concrete prototyping practices or examples were included in this article. As a result, particular attention should be given to this topic in further research. Furthermore, the ideal setting for the first few iterations is to be investigated; should the team(s) work separately from the rest of the organisation while developing this new approach, or as closely to the actual organisation as possible? Other questions remain as well. Does this process, and the resulting agile organisation fit all teams, departments and organisations?

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# APPENDIX D

In order to check various elements of the research on theoretical and practical validity, and to gauge the business value of the research outcomes, a series of validation efforts was carried out.

The main objective was to find out to what degree:

- is the research understandable for business practitioners?
- are the various parts of this research relevant to businesses?
- do the various parts of this research address business needs?
- would change practitioners from business want to work with this theory and tools?
- can change practitioners work with the theories and tools as provided now?
- is the research complete?
- is the research true and just?

## Approach and goals

The research was set up through three distinct elements. Firstly, the explanation of the design field was validated through an online questionnaire distributed to (former) industrial design engineering students. Secondly, to validate the new view on organisations as a set of organisational blocks from a human perspective, an informational deck was created and distributed to professionals, after which interviews were to take place. Lastly, to research the impact and applicability of the concepts of ongoing revolutionary change and the revolution checklist, two informational slide decks were created and distributed, and several respondents interviewed.

The results of the first and second validation efforts were also used as a final iteration effort on the content of the theory. In other words; the gathered feedback on content, rather than applicability, was collected, analysed

and, if possible, used to update both the definition and principles of design and the organisational blocks.

The response data of all three validation efforts (text-based answers for effort 1, and combinations of audio recordings and hand written notes by the author) are kept by the author and are available on request (in anonymous form) in order to comply with TU Delft and GDPR regulations.

## Validation effort 1

A questionnaire was sent to (former) industrial design engineering students. Apart from two questions on the participants background, necessary to sort for unintended respondents, no personal information was collected and the questionnaire consisted of 12 questions in sets of two, accompanied by an image with information (see below), taken from a slide deck created for this validation effort (Deck 1).

Questions relating to the first image.

- Do you agree with the above definition of (strategic) design?
- Can you explain why you do (not)?

Questions relating to the second image.

- Do you agree with this overview of design principles?
- Can you explain why you do (not)?

Questions relating to the third image.

- Do you agree with the above definition of this principle?
- Can you explain why you do (not)?

Questions relating to the fourth image.

- Do you agree with the above definition of this principle?

- Can you explain why you do (not)?

Questions relating to the fifth image.

- Do you agree with the above definition of this principle?
- Can you explain why you do (not)?

Final questions, not relating to any image in particular.

- Do you feel my explanation of (strategic) design is complete?
- What do you feel is missing?

## Outcomes

In total, I received 21 valid responses. Overall, respondents agreed with the statements I provided them.

Definition of (strategic) design: 91% agreed

Overview of design principles: 67% agreed

Balancing creative & analytical thinking: 86% agreed

Deep understanding of people & process: 62% agreed

Dealing with uncertainty: 91% agreed

I received generally positive feedback on the overview and the various definitions and explanations. The comments provided me with the opportunity to tweak some of the explanations in the text. For example, 'getting a deep understanding people and process' was updated to 'getting a deep understanding of the context', to better reflect the fact that problem solving takes place in a larger society as well. Moreover, several respondents noted the key role communication plays in various aspects of the design process, and especially in stakeholder management. Finally, the way in which designers are able to work with large volumes of incomplete multiple times by the respondents.

## Deck 1

### DEFINITION OF DESIGN

Design has come to a point where it is a combined state of mind and a more or less fixed set of tools, steps and processes to solve wicked and ill-defined problems. It is an iterative problem-solving process, where desirability, feasibility and viability are constantly balanced.

### DESIGN PRINCIPLES



balancing creative & analytical thinking



understanding people & process



dealing with uncertainty

### BALANCING CREATIVE & ANALYTICAL THINKING

As designers, we are able to quickly switch from analysis to action - from thinking in abstract terms to thinking in concrete terms. We frame and reframe a problem over and over - probably making it larger than others would do. Therefore, we reason through a co-evolution of problem and solution: as we think of possible solutions, our understanding of the problem might change. We have an open attitude towards all aspects of possible problem and solution spaces.



### **GETTING A DEEP UNDERSTANDING OF PEOPLE & PROCESS**

As designers, we try to engage multiple stakeholders throughout the process. Often, we work in interdisciplinary teams, where the designer is sort of a connecting element. To achieve this, we try to make intangible aspects easier to handle, by making them insightful, tangible and experiential. Part of this practice is to always balance feasibility, viability and desirability. We develop an empathic view for all situations. Being human-centred might be the start, but all three elements are as important.

ENGAGING STAKEHOLDERS | INTERDISCIPLINARY TEAMS | CREATING INSIGHT & TANGIBILITY | BALANCING FEASIBILITY, VIABILITY, DESIRABILITY | EMPATHY



### **DEALING WITH UNCERTAINTY**

As designers, we try to deal with uncertainty by working iteratively and in a non-linear fashion. The key is to learn quickly and to alternate between diverging and converging thinking. It's important we trust the process and our gut-feeling to deal with the uncertainty and with the fact we always work with incomplete data (you never know everything).

ITERATION | NON-LINEAR PROCESSES | DIVERGING & CONVERGING | TRUSTING THE PROCESS & GUT-FEELING | WORKING WITH INCOMPLETE DATA



## Validation effort 2

A second effort aimed to validate the new view on organisations as a set of organisational blocks from a human perspective. Informational deck 2 was created and distributed to professionals, after which interviews were to take place.

### Outcomes

I was only able to discuss the validity of the new view on organisations with a single participant: a senior job coach and manager at a Dutch organisation providing assistance with regards to housing and employment for people with autism.

The interview showed that the participant found the various organisational blocks very relatable and understandable. With the amount of explanation provided in the deck, they fully comprehended the various concepts and their links to one another. The participant indicated that they thought such an approach could be useful indeed.

Given the small scope of this validation effort, I am unable to make clear claims on the validity of this part of the research, hence the inclusion in the appendix only.

However, the participant did provide many insights on the context of the various blocks, and related them to existing theories and concepts I had not yet included. As such, several improvements have been made to the descriptions of the blocks, and various examples have been added to the main text.

Moreover, during the interview, the conversation also touched on the concept of ongoing revolution as a controlled iterative approach to change. The participant had some remarks on that topic as well, which have been included in the validation results in chapter 5, together

with the results from validation effort 3.



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### THE PREMISE

Organisations find it more and more difficult to deal with our changing times, as our world has drastically changed over the last decades. This has led us to believe that organisational theory and practice from the last decades just does not hold up anymore. They have created organisations that made sense then, but do not necessarily now. Organisations themselves need to change in order to keep up with this sped up world.

### THE NUMBERS

To achieve better success, many organisations are (constantly) entrenched in large-scale change efforts. However, these do not guarantee improvement, with various studies suggesting only about 25 to 50% of these efforts succeed, and numbers are declining. There must be a way to improve on current theories and practices.



2013 Strategy& Numbers



2015 McKinsey Numbers



2019 BCG Numbers

### THE QUESTION

How can design be of value in the quest for progressive organisations\*, their design and subsequent change efforts in the context of 21<sup>st</sup> century challenges?

\* In the context of this research, progressive organisations are those that are as well-equipped for the present and future as possible. They aim to achieve three distinct abilities: engagement amongst employees, organisational agility and organisational ambidexterity.

### THE RESULT

A new view on organisational elements and their connections is created based on literature on progressive organisations, as well as the insights into design and prototyping. The model consists of various organisational blocks. These blocks together make up an organisation and are defined from the perspective of the employee - the human. The goal of this approach is to understand the organisation in a different way, to make it possible to build a new organisation together with the employees in an iterative manner.

THE APPROACH



raison d'être

THE APPROACH



raison d'être



environments



culture



grounding

THE APPROACH



raison d'être



environments

+



culture

+



grounding

≈



action agenda

## ENVIRONMENTS

In order to motivate and facilitate your employees, create inspiring and open physical and digital environments<sup>1</sup> for the organisation's staff to work in<sup>2</sup>. The environment should suit the company culture and (different) ways of working, as well as facilitate the newly developed groundings, or (in)formal positions and relationships of the employees towards each other. The environment in which actions take place can have great impact on an individual's creativity. A choice of environment, in particular fosters creativity.



1) Aghina et al., 2017; Morgan, 2017 - 2) Gruber et al., 2015

## CULTURE

Aim to design and define an open organisational culture, where constant communication and collaboration take place in various (in)formal ways. Engage in radical transparency<sup>1</sup> by enabling easy access to information. Distributed decision making<sup>2</sup> should be a formal part of the culture. Freedom and autonomy come with trust<sup>3</sup> and increased personal responsibility, but usually leads to increased job satisfaction and self worth<sup>3,4</sup>. Ideally, this enables increased organisational performance through higher levels of engagement<sup>5</sup>. Constant communication, together with a driver-led organisation enables employees and teams to engage in aligned autonomy<sup>2</sup>. As a result, organisational leaders should be supportive<sup>4</sup> and hands-on<sup>1</sup>, and mainly work towards clearing impediments.



1) Aghina et al., 2017 - 2) Kniberg, 2014 (1) - 3) Mahadevan et al., 2017 - 4) Minnaar & de Morree, 2017 - 5) Morgan, 2017

## GROUNDING

Co-create a way for everyone to work together; define formal positions and relationships for the employees towards each other, while creating space for informal relations to organically grow over time. All positions & relations, both formal and informal, change over time as the organisation adapts, but provide some grounding to employees while they stand. From the organisation's perspective, these groundings should look like constantly evolving networks of teams (or 'fit-for-purpose performance cells<sup>1</sup>'), as opposed to set hierarchies<sup>2</sup>.



1) Aghina et al., 2017 - 2) Minnaar & de Morree, 2017

### **ACTION AGENDA**

Instead of creating set-in-stone job descriptions, employees should work based on their individual talents and skills<sup>1</sup>. Through the various organisational blocks, the context can be individually shaped. This happens in stead of dictating individual actions, which constitutes a less successful management style<sup>2</sup>. The constantly changing grounding (i.e. relationships & place), combined with a transparent and forward-looking culture should foster a dynamic action agenda for employees. At any moment in time, any employee should have clear and accountable roles<sup>3</sup>. However, employees across the organisation should proactively look for opportunities to create value. Some form of entrepreneurial drive can help them act on these insights<sup>3</sup> - especially because the environment allows for this, and the grounding is flexible and fosters role mobility. Throughout the organisation, such tasks should be viewed as integral to an individual's job, as opposed to a task on top of their regular action agenda.

1) Minnaar & de Morree, 2017 - 2) Faeste, Reeves & Whitaker, 2019 - 3) Aghina et al., 2017

### **ROOM FOR THOUGHT**

What do you think of this human-centred approach to organisations?

Is the overview understandable?

Do you think the blocks are correct?

Are the organisational blocks relatable?

Do you feel this overview is complete?

Would people you work with / for understand and accept this approach?

How would such an approach help or hurt them?

In which way could I communicate this to organisations?

## Validation effort 3

The third validation attempt was the largest, and focused on two related, but separate concepts: the idea of change as an ongoing iterative revolution, and the revolution checklist as a means to maximise the chances of successful change efforts.

Two separate slide decks were created: deck 3a and 3b. Deck 3a was sent to group of people set to attend a gathering on the role of design (and technology) in organisations at the TU Delft Faculty of Industrial Design Engineering a few weeks later. The deck focused on the concept of ongoing iterative change, in order to stimulate possible participants to think about the subject. During the event, deck 3b would be used to discuss the checklist, its validity and its application in various organisational use cases. Deck 3b was also sent to various contacts in different organisations.

## Outcomes

In the end, five interviews took place, all from the group of people that immediately had received deck 3b. I was unable to secure a meeting or timeslot with any of the possible respondents from the group that received deck 3a. The feedback was mostly positive, and the main conclusions on validity have been collected and written out in chapter 5.1.

On top of the feedback the participants provided with regards to the research's impact on organisations and its usability, desirability and feasibility, many different insights were also gathered. These insights deal with the content of the (various elements on) the checklist and warrant further discussion and research. As such, I have listed the most profound insights and remarks below, and added the recommendation to look into at a later moment in time. As will become clear, many of the insights are already (partially or implicitly) addressed in the current checklist.

However, I feel the need to list these remarks nonetheless, as they all point at possible improvements of the current text. Improvements I simply do not have the time to address.

## Additional insights and remarks

Though all participants agreed with the concept of ongoing organisational change, and the idea that broad cross-organisational involvement will be necessary to successfully achieve this, one participant noted the parity gap between the concept of broad involvement and the principles of 'going viral', as described in my thesis. They recommended finding a way to balance these seemingly conflicting recommendations by actively opening up parts of the change effort in a way that people feel welcome to join, without communicating about every detail. The implications of this balance should be further investigated.

Several respondents indicated that they felt the checklist should help make success measurable. The question arose when a change effort is successful (also with regard to the numbers on declining success of change efforts, as mentioned several times in the thesis). In the context of ongoing change, this mostly applies to the continued iterations, and should thus be linked to elements on that subject. These measures of success will, of course, closely relate to the progressiveness of the organisation and to the degree of progressiveness that has been achieved. One participant talked about using a scale for progressiveness, to help organisations (continuously) rate themselves.

The participants all stressed the difference between (planned) ideas and theory versus reality. Their remarks, ideas and concerns all related heavily to both the concept of 'change by changing' and 'take one step at a time', with one participant indicating that they are related to one another (the first being: just begin, and the second: just



begin in a small manner). Several of them indicated that behavioural change will be the hardest part of the change effort, and explained how not everyone will be cut out for such behaviour changes. Different aspects of this complication were discussed, including the notion that, in the end, it is impossible to keep everyone happy. Sometimes it will be necessary to force people to change or terminate their employment (either forcefully or in mutual understanding that the organisation and the person just do not align anymore). Moreover, one participant stressed the notion of resilience and continuously emphasising the fact that change is hard as part of the effort. On top of this, one participant added their opinion that continued stakeholder mapping should be an explicit part of the checklist, as they believed that ongoing stakeholder mapping and involvement could help battle resistance from within (parts of) the organisation. Lastly, several participants recognised the difference between changing something (like a structure) on paper and achieving actual behaviour changes (like letting go of informal divides between employees). A key part of the checklist is to facilitate such a mind-set change, to stress the 'psychological safety to fail' and to realise that forgetting to set the right example can be particularly harmful. One participant explained their approach of selecting proof projects (parts of the organisation that are small enough to change relatively quickly, but large and recognisable enough to inspire larger change) as a feasible way of dealing with the difficulties described here.

All respondents agreed that the use of 21st century technological applications, to help with the other elements the checklist sounds logical and important, but is not something they have relied on (heavily) up till this point. Moreover, many suggested that this element should be treated differently from the other elements, as it represents more of a means to achieve the goals of the other principles. It is a difficult concept that, according to

one participant, also poses interesting ethical questions, such as the active inclusion and exclusion of people as part of the system's design.

The checklist is probably connected to the view of an organisation as a set of organisational blocks. Two respondents reflected on the possibility to innovate at their own organisation, and explained how this is possible, but becomes an extra responsibility on top of someone's regular job description. A third respondent asked about the relation between the change effort and the level of commitment necessary by, for example, the guiding coalition. I therefore recommend looking into the link between the dynamic action agenda and the impact on the change effort for different employees. The same goes for a possible link between the broadly supported change vision and the organisation's purpose (*raison d'être*).

All respondents agreed that C-level alignment is an important factor, with two interviewees calling it 'absolutely key to success'. They all stressed the difficulty of achieving such alignment in practice, and some of the respondents questioned the possibility of 'contentless' alignment – the idea that executives should decide change is necessary, but not go into the direction or manner of getting there. Two respondents advised me to put extra attention into this topic and questions on how the executives would cope with delegating their power and what their agenda would (start to) look like from then on.

Though all respondents agreed with the advice to tie the change to cultural elements that are working and stress they should be kept and built upon as part of the effort, one respondent argued that the organisation should also define 'perverse incentives': those elements of the legacy culture that people agree hinder progress and should be actively dismantled.



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### THE APPROACH

The design process teaches us to work in circles and focus on a problem by gaining insight, reframing the problem and iterating upon that. Only through repeated learnings and experiments is it possible to achieve meaningful improvements to a complex problem or imperfect situation...

### THE APPROACH

... As a result, let us approach a change effort as an iterative process, that relies on constantly implementing small changes and learning from the outcomes by testing assumptions. The end-goal should not be to design or deduce static organisation plans, but to (constantly) adapt to the changing conditions, with the realisation that not all things can be predicted or controlled.

(Fæste, Reeves & Whitaker, 2019)

### THE APPROACH



#### planned to hacked

Instead of trying to work out every element of the change effort, try to take a more ad-hoc and see-as-we-go approach to the effort itself. Use every iteration as a learning moment, and decide on next steps as you go.



#### forced to invited

Invite people to join the effort, instead of forcing them. This idea relies on the concept of iteration and heavily depends on the (measured) success of the effort so far. Invites helps foster a sense of engagement amongst employees, something that is of great importance during such efforts.



#### managed to viral

Boost engagement through hype and rely on the (measured) success of the effort up till that point. Social capital is a principal motivator to us humans, and this can be exploited to grow the effort. People will want to be part of it and immediately opt to invite themselves if possible. Scarcity and mystery are strong tactics.

(de Morree & Ronner, 2019)

### ROOM FOR THOUGHT

What do you think about (continuous) organisational change as a revolution?  
Can (semi-)controlled iterations help successfully change over time?

What would suit your organisation better? Continuous rolling change that grows organically in size (through invitations), or moments of mandatory change effort scale-up to other parts of the organisation?

Preemptive change might offer competitive advantages. Do you agree that a successful change effort is best pursued before it is even needed?

**AS A BONUS**

From theory and practice, I have created a checklist of topics and practices to increase the chances of success for organisational change efforts as much as possible.

Would you like to receive and learn about this checklist?  
Please help me with some feedback on June 11<sup>th</sup> and it's yours!

[maxdavidse@gmail.com](mailto:maxdavidse@gmail.com)





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### THE APPROACH

The design process teaches us to work in circles and focus on a problem by gaining insight, reframing the problem and iterating. Only through repeated learnings and experiments is it possible to achieve meaningful improvements to a complex problem or imperfect situation. So, let us approach a change effort as an iterative process that follows the three guidelines to the right. **The end-goal should not be to design or deduce static organisational plans, but to (constantly) adapt to the changing conditions, with the realisation that not all things can be predicted or controlled.**



planned to hacked



forced to invited



managed to viral

(de Morree & Ronner, 2019)



### THE CHECKLIST

Building on the idea of continuous iterative change efforts, a checklist has been created to improve the success rate of change efforts. This checklist is based on (design) theory, interviews with business representatives and insights from large-scale change effort practitioners.

The checklist consist of six groups of recommendations, as seen on the right.



be broad about it



approach from all angles



talk about the future



change by changing



take one step at a time



build on technology

### BE BROAD ABOUT IT

Make sure the change effort is set up in such a way that all parts of the organisation are informed, included and involved. The organisation's top executive should be aligned on the need for change (though preferably not set on the direction and process). A guiding coalition of employees from all over the organisation should have the mandate and be in control of the change effort, with gradually increasing support from those that have joined the effort: the volunteer army.

#### PRINCIPLES IN THIS GROUP

- create cross-organisational involvement
- have an aligned C-suite
- form a guiding coalition
- raise a volunteer army

### APPROACH FROM ALL ANGLES

Any change effort is so large and complex, that it should be approached in multiple ways. When communication the effort, make sure to appeal to head (through facts) and heart (through tangible emotions). The effort feels smaller and more personal to the organisation if it's tied to the aspects of the culture that will be kept. This can be achieved through the implementation of formal and informal solutions. Role models are informal leaders, spread throughout the organisation, that can be used to increase engagement.

#### PRINCIPLES IN THIS GROUP

- appeal to head & heart
- lead with legacy culture
- leverage formal & informal solutions
- engage role models throughout the organisation



### TALK ABOUT THE FUTURE

The largest part of all effort will be communicating the effort. Try to collaboratively create a vision, to help explain what the effort is, where the organisation is heading and why it's necessary to do so. This will help engage your organisation. Continuous (and consistent) communication is key, as people tend to hear, remember and understand things much slower than you would anticipate.

#### PRINCIPLES IN THIS GROUP

- create a shared strategic vision
- communicate continuously

### CHANGE BY CHANGING

Communicating about something is nowhere near enough to actually change anything. As a result, anyone that has become part of the effort, should just actually change (key) behaviour(s). This sets change in motion, and shows others it's okay to change. In doing so, people should work towards the new organisational realities and break up existing hierarchies, structures and silos. In order to maximise the effort's effect, employees should be given the opportunity to maximise their talent and skills through training and support.

#### PRINCIPLES IN THIS GROUP

- lead by doing
- break hierarchies, structures and silos
- actively build (on) talent and skill



### TAKE ONE STEP AT A TIME

As explained, the change effort will be an iterative process, that builds on continuously evolving insights. To keep the momentum going and increase the effort's reach, celebrate (small) wins. In order to maximise the credibility and impact of the iterations and the wins, collect and build on data. This data can be used as part of the iterations and celebrations.

#### PRINCIPLES IN THIS GROUP

- iterate over and over
- keep building on progress
- build on data



### **BUILD ON 21ST CENTURY TECHNOLOGY**

Many different technologies, both existing and emerging, can strengthen the other elements in this checklist. Use these technologies to increase personalisation and empathy, improve input and reach, and increase the efficiency of iterations through reflection. For example, social media technologies can be used to increase reach and personalise communication, while big data and AI can start to play a role in analysing the success of iterations within the effort.

#### **PRINCIPLES IN THIS GROUP**

- personalisation & empathy through technology
- improved input & reach through technology
- iteration & reflection through technology

### **QUESTIONS**

What are your first impressions of the checklist?

Do you understand the checklist as it is presented here?

Do you agree with the various elements in the checklist?

Do you feel the checklist paints a complete picture, or is it missing elements?

Is the checklist relatable? Are the various groups recognisable?

Do you find the checklist useful? If so, in what way?

Who, in your opinion, would benefit from (using) such a checklist?



