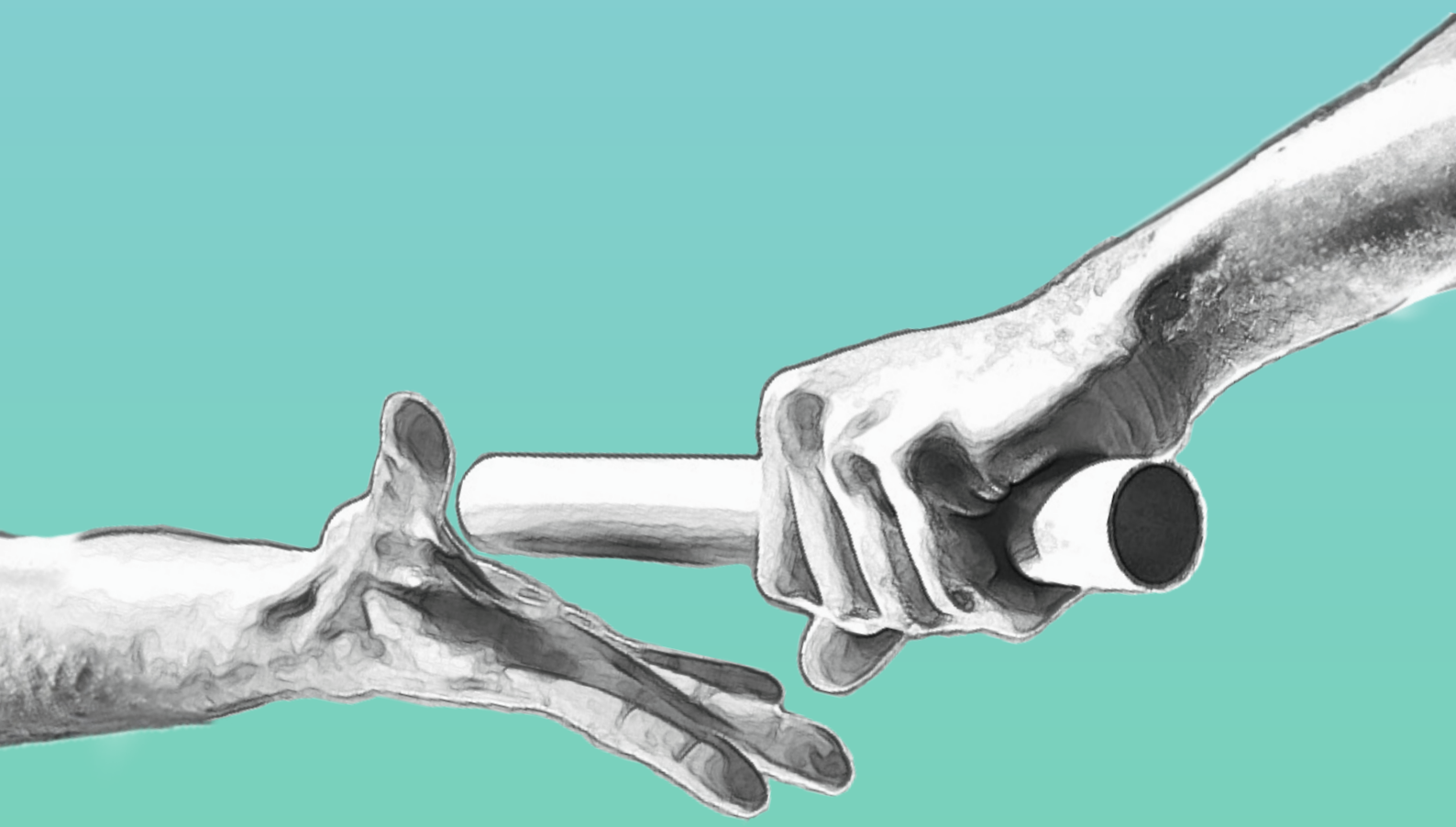
Master Thesis Diederik Notten
Strategic Product Design
Delft University of Technology

The handover moment

Designing a framework that allows the aggregation of insights to allow a translation into an interaction that increases the likelihood of implementation



COLOPHON

The Handover Moment
Designing a framework that allows the aggregation of insights to allow a translation into an interaction that increases the likelihood of implementation

Master thesis
Diederik Notten

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Strategic Product Design
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Delft University of Technology

In collaboration with:
Immigratie- & Naturalisatiedienst (IND)

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Preface

Dear reader,

In front of you is my graduation project as the final work of the Master Strategic Product Design at Delft University of Technology. With blood, sweat and tears, I put together this Magnum Opus for the Immigration and Naturalisation Service (IND) of the Dutch government, and in particular the Einsteinbrigade team. In collaboration with the Innovation Programme, the project investigated why the Einsteinbrigades results end up in the so-called “Valley of Death”, and produced a design which contributes to avoiding this phenomenon. The final design took the form of a toolbox used to design an interaction to convey results of a passed experiment, and was delivered to interested stakeholders.

Besides the value of this project to the IND, this project has also been of value to me as a designer. During the course of my studies, I changed a lot as a person, with the result that my values and priorities shifted with me. I found out that I become happy by making a social contribution, and find it important that more designers work within the government. This project showed me what it is like to make this contribution in a government organisation, but also what the contribution of a designer can be within these organisations. I am convinced that I am not the only designer who feels this way and has these ambitions. Therefore, I hope this report works as an inspiration to others, to which can be seen the value of designers in a political environment.
In addition, I would also like to express my gratitude here to everyone who has ensured that this project has stayed on track, but also to everyone who has supported me over the years to get to this point.

Throughout this project, I have noticed how important and pleasant it is to have a team you get along with and understand your work, which was definitely the case for me. Therefore, I would like to start by thanking my supervisor team at TU Delft, my chair Mieke van der Bijl-Brouwer and my mentor Willemijn Brouwer (no, they are not related ;). Together, you made sure I felt comfortable and motivated throughout the project, but also that there was always a clear goal I could work towards.

Mieke, I would like to thank you for your sharp view on my work, your clear way of giving feedback and your nice way of communicating. Your ability to always have a clear idea of what needs to be done helped me several times in this project.

Willemijn, I would like to thank you for your boundless energy and your creative input for and critical view of my work. Your mindset has pushed me to express myself more creatively, which has paid off for the outcome of this project

Secondly, I would also like to thank Anton Molleman, my supervisor within the IND. Your experience of the IND, your deep knowledge of the political landscape and your trust in me and my work kept coming up during our weekly appointments. This helped me tremendously and I therefore could not have imagined a better person to guide me within this previously unfamiliar landscape.

In addition, I would like to thank the other gentlemen of the Innovation programme, Nuhi Stenvers, Gerard Jan Terpstra, Ben Kromhout, Peter van Lent and Mark de Wijn. The discussions with you were always insightful and enjoyable and I wish you every success with the continuation of the programme.

I would like to thank the Einsteinbrigade and especially Marieke Cartens. Your input in the early stage of my project helped me quickly on my way within the IND.
I would also like to thank Nadiye Cakir for getting me started on my project, but also for your flexible involvement and interest in along with me.

Finally, I would like to thank all the other people who supported me during this project. All the people within the IND and JenV who gave me the insights I needed for this project, all the students who made time to think about my project, and my parents who supported me so that I am in the position I am in now.

Have fun reading, Diederik

Executive summary

The Dutch Immigration and Naturalisation Service (IND) has been finding it increasingly difficult to carry out its task in recent years. Increasingly, they have been in the news negatively with reports such as poor conditions in Ter Apel, hopeless waiting times for applicants and having to pay penalty payments. Besides the media attention, it is also a point of discussion in politics at national and European level. The complex policy that will follow from this makes for a situation of tension for the IND. In order to respond appropriately to both politics and applicants, it is important for the IND to be agile and responsive as an organisation. To achieve this, the IND wants to become more innovative, which partly means retrieving ideas from the organisation and then experimenting with them with the aim of improving processes, also known as bottom-up innovation. Currently, one team within the IND, the Einsteinbrigade, is responsible for facilitating this bottom-up innovation. Although this team is very effective in identifying which innovations are of value to the organisation, they do not always manage to convey this value to those responsible for implementation.

This thesis project explores what exactly underlies this phenomenon, and how design can address it. Through qualitative research methods, the following research question is dissected and explored:

Why are some of the Einsteinbrigades completed experiments not followed up with an implementation project?

The insights obtained revealed the root cause of this problem, but more importantly which bottlenecks lie below. These bottlenecks were translated into design goals from which a direction was chosen for the continuation of the project. It reads as follows:

With my to be designed intervention, I want to achieve that Clients within the IND respond to the needs of the Business by making the Einsteinbrigade capable of effectively conveying the value of an experiment to the Client.

Within this design goal, 6 principles were identified that have been proven to help implementation; (1)The expected benefit; (2)The compatibility; (3)Sensing surprise; (4)Perceiving multiples, (5)Embodying alternatives, and (6)Verbal Mastery. From testing these principles, strengths emerged that were incorporated into the final design.

The design took the form of a framework in which the insights gained from the experiment can be compiled from which an interaction can be designed appropriate to the Client and the experiment. The interaction creates a unique experience for the Client, but above all makes it tangible and recognisable what impact the innovation is having.

During the evaluation, it emerged that the interactions provide a unique moment within IND’s current meeting culture, and strongly contribute to conveying the value of the results. In addition, In addition, placing the insights in the framework allows new insights and connections to emerge, contributing to the narrative, and ultimately interaction. In addition, designing the interaction stimulates creativity, which was recognised as a necessary replacement instead of the current way of presenting results.

In conclusion, it must be acknowledged that this design is not conclusive for the Einsteinbrigade problem. It is a first step in the right direction of making the IND a mature organisation where bottom-up innovation is central to improving processes. Ultimately, it is recommended that to execute successful bottom-up innovation, there must be an organisation-wide leadership with corresponding clear agreements.

Glossary

Terms and definitions

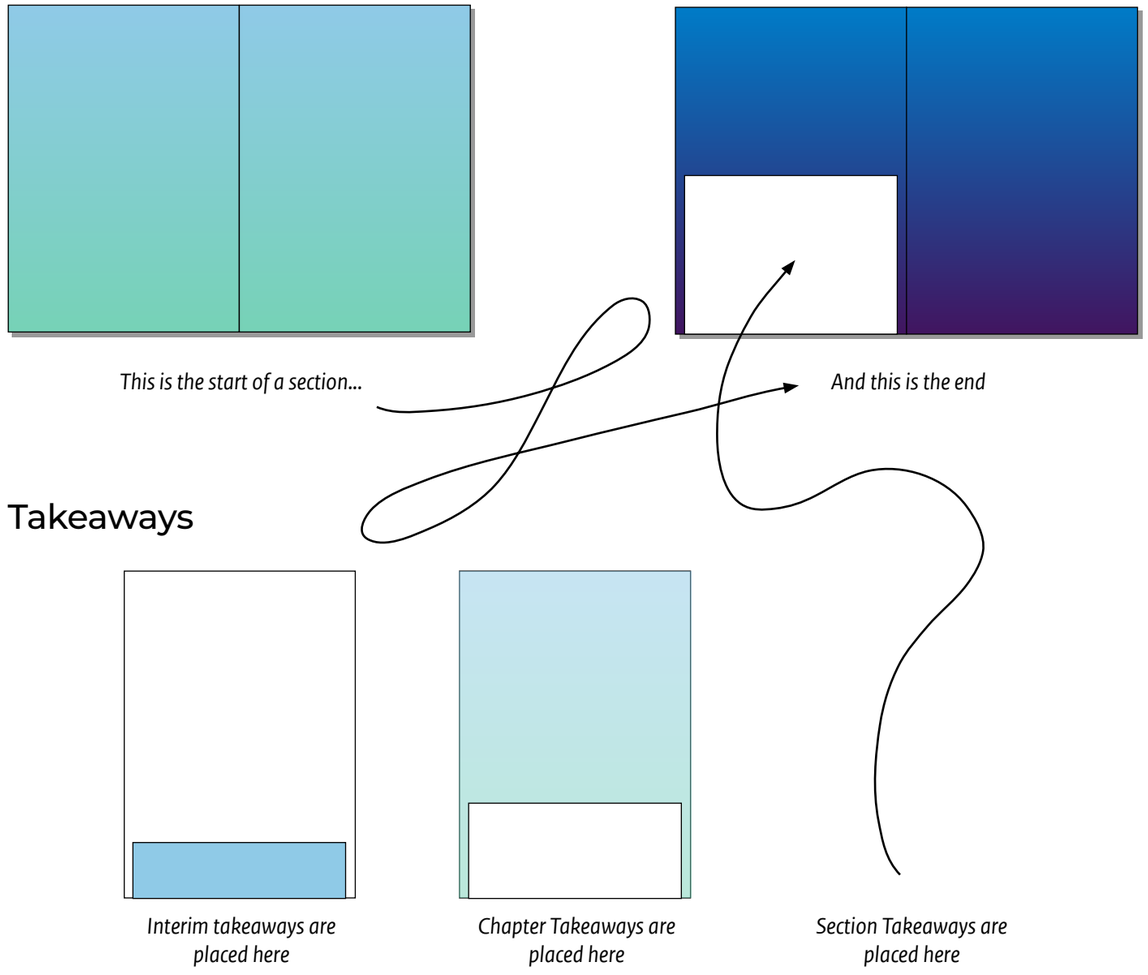
Business	The core task of the IND employees which thus depends per line organisation
CHANGE	The planned alterations in the way an organisation operates, such as changes to its processes, procedures, policies, strategies, or structures (±20% of FTE)
Client	Line Director or Tactical Manager responsible for the change initiative appointed to
Epic	An epic is a significant development in ICT that requires approval by the Portfolio Board based on a business case.
Feature	A feature is an ICT functionality that meets a key need of one (or more) stakeholders and creates value.
Line Director	Head of a Line Organisation
Line Initiative	Initiatives of any format set up by Line Management within their Line Organisation outside the governance of the Portfolio Board
Line Management	The management of a Line Organisation, consisting of the Director of the line and Tactical Managers
Line Organisation	The internal division of main departments of the IND
Managing Director	The head of the IND
MT IND	IND's management team, consisting of the Managing Director, two acting Managing Directors, and the directors of all Line Organisations
Programme	A temporary and flexible organisation within the IND with a certain objective
Project	A temporary and flexible organisation, like a Programme, set up to deliver one or more results according to an agreed business case
RUN	The day-to-day operations of an organisation, including all of its processes, procedures, and activities that are required to keep the organisation functioning (±80% of FTE)
Tactical Managers	Managers of the Line Organisation

Stakeholder translations and abbreviations

EN	NL	Abreviation
Asylum and Protection	Asiel & Bescherming	**A&B**
Business Operations	Bedrijfsvoering	**BV**
Immigration and Naturalisation Service	Immigratie en Naturalisatiedienst	**IND**
Information Provision	Informatievoorziening	**IV**
Legal Affairs	Juridische Zaken	**JZ**
Managing Director	Directeur-Generaal	**DG**
Ministry of Justice and Security	Ministerie van Justitie en Veiligheid	**JenV**
Portfolio Board	"… …"	**PFB**
Regular Residence and Dutch Citizenship	Regulier Verblijf en Nederlanderschap	**RVN**
Services	Dienstverlenen	**DV**
Steering Committee	Stuurgroep	**-**
Strategy and Implementation Advice	Strategie en Uitvoeringsadvies	**SUA**

Reading guide

Sections



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Introduction

In the first quarter of 2023, the Dutch population grew by 27.4 thousand people. This growth was entirely due to immigration, as more people died than were born (CBS, 2023). Migrants come here for various reasons such as work and study, but also for less fine reasons such as war, persecution and, in the future, climate (IPCC, 2022). The Immigration and Naturalisation Service (IND) is responsible for processing all applications from these people to then issue a status or not. The pressure on this organisation has greatly increased over the past decade due to various reasons. The consequences are hopeless situations for applicants, miserable living conditions, migrants getting lost in the system and so on. To deal with this, the IND's ambition is to become more innovatively mature as an organisation. But, due to the current internal situation, it is very difficult for innovations to be implemented and it is hindering the IND from achieving this ambition.

The organisational context

Migration is the voluntary or involuntary movement of people from one place to another to settle in a new location. This can be for various reasons such as economic, environmental and social matters (e.g earning more in another country, natural disasters or religious beliefs). These matters in turn can be divided into push and pull factors, with the former being the reasons why people leave a country, and the latter being the reasons for moving to another country (Europees Parlement, 2023). A good example of a push factor is the war that broke out in Ukraine more than a year ago, forcing millions of Ukrainians to leave their country. An example of a pull factor is education, which in the Netherlands, for example, can be seen in the increase in foreign students (Huberts, 2023). So, regardless of the reason, these people want to stay in another country, to continue living their lives there. With that, migration not only impacts the people who undergo it, but also the countries where they want to settle.

For this new place of life, the Netherlands has proven to be and will continue to be a popular destination, where over 400 thousand migrants came to the Netherlands last year, which was 148 823 more than the year before (Centraal Bureau voor de Statistiek, 2022).

Future migration is anticipated to rise even more as a result of numerous issues including global economic inequality, climate change, and political unrest in various places. People will look for better prospects and living circumstances in more stable and rich nations when particular areas' conditions worsen. The Netherlands will continue to be a desirable location for immigrants due to its robust economy and reputation for providing high-quality healthcare and education.

However, if sensible steps are not done to control this expanding inflow of migrants, it may result in a number of difficulties and problems. Uncontrolled migration can put a pressure on infrastructure, housing, and public services, which could affect the host nation's resources and social cohesion. As immigrants bring a variety of cultural backgrounds and languages, integration issues could occur, necessitating significant efforts to promote social inclusion and harmony.

To regulate and control migration, national and European policy are established, which must then also be executed. This policy is carried out in the Netherlands by the Immigration and Naturalisation Service (IND).

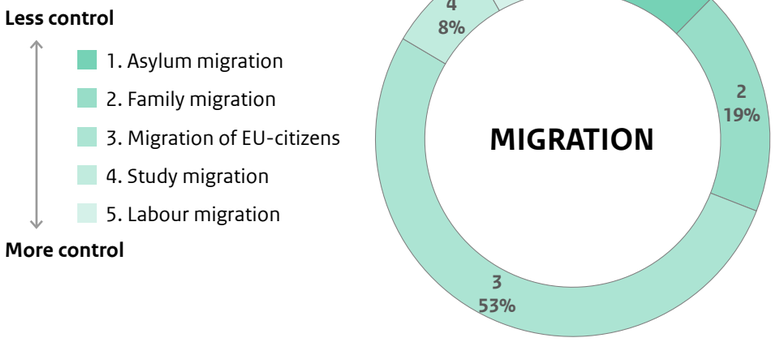


Figure 1. Distribution of migrant flows and corresponding control (IND, 2023)

The increasingly difficult work of the IND

The IND is one of the so-called executive organisations under the Ministry of Justice and Security (JenV). Executive organisations exist under a certain ministry purely for the implementation of one (or more) law(s) (Thiel, S. V., 2004). In the case of the IND, this concerns the *Vreemdelingenwet 2000*, which briefly says it regulates the admission, residence and deportation of foreign nationals in the Netherlands (wetten.nl, 2022). It is their job to process applications from non-European people who want to come and live, work or study in the Netherlands, to then hand out a status to these applicants. This organisation of approximately 5,500 employees makes a yearly agreement on how many applicants they aim to process. In 2022, they surpassed this number, which shows how diligently people work (IND, 2023). But processing applications is a process that does not always prove easy. In the IND's second *State of the Execution* (IND, 2023), a clear overview of the distribution of forms of migration was given, which can be viewed in Figure 1. Besides the distributions of the different forms of migration, it also shows the *control* the IND has on each form, meaning the processing time from application to verdict. It should be noted that the IND does not deal with the migration of EU citizens, which is also the largest group at 51%, as they can travel freely across Europe.

Among other things, the diagram shows that *Asylum and Family migration* add up to only 31% of the total number of migrants, but they are also the most unpredictable and therefore bring about most of the problems and issues that the IND are now facing. Observant readers may notice that this is very reminiscent of the 80-20 rule, which says that 80% of outcomes (or outputs) result from 20% of all causes (or inputs) for any given event. These outcomes are increasingly in the spotlight of Dutch society and media (see Figure 2). The consequences seen in this figure are a manifestation of two underlying problems.

First, Dutch and European laws and regulations are becoming increasingly complex, with rulings by the Dutch Council of State and the European Court of Justice also leading to more time-consuming work. As a result, substantiating rejection decisions is becoming increasingly difficult, making the processing of applications increasingly time-consuming and increasing waiting times.

Second is the utilization of outdated ICT systems within the IND for processing applications, and the attendant processes built around this technology. The reliance on outdated systems has resulted in prolonged processing times for applications, consequently leading to desperate waiting periods for applicants.

These two problems create a tension in which the IND currently operates. As such, the imperative for reform arises, both in the formulation of migration policies and the exploration of innovative solutions to expedite and streamline their operations.

Figure 2. News items on IND situation (NOS, 2023) (De Tijd, 2023) (RTL, 2023) (Trouw, 2023) (Het Parool, 2023)

The Innovation programme

To respond to this field of tension, the IND aims to become more reliable, more responsive, and innovative. To implement objectives of this magnitude while minimising the burden on the organisation and its employees, so-called programmes are set-up within the IND. Thus, the Innovation Programme was established in 2022 with the intended result of changing the culture of the IND so that it becomes a more mature and innovative organisation where it is allowed to experiment and fail. The dedicated team does this by setting clear objectives in consultation with the organisation's management, combined with a listening ear for issues and needs from operational staff on processes and tasks. To give structure to this often unclear path, the programme uses the Innovation Matrix that JenV has prepared together with the consulting firm KPMG (Figure 3). This model serves as a roadmap for the programme to make further interpretation concrete, but also as a means of conversation to speak a unified language with other governmental organisations to improve knowledge sharing.

The model views innovation from 5 perspectives: *strategy, ecosystem, process & governance, outcome* and *culture*. Each perspective having its own defined outcomes that determine how "mature" the organisation performs on that perspective, leading to the levels *Basic facilities, Structural, Managed* and *Pro-active*

Combining the 5 perspectives with their ambitions, the IND has formulated four outcomes as a dot on the horizon. These read as follows:

1. Realising concrete benefits **through targeted interventions and issue-driven redesign of the asylum process**, emerging from TNO's system analysis.
2. Strengthening the **innovative organisational** foundation - from idea to success.
3. S**timulating bottom-up innovation** by intensively involving employees in problem definitions, innovative solutions and experiments.
4. G**athering external knowledge** through cooperation with the outside world, knowledge institutes, universities and colleges and special companies.

	Lvl 1: *Basic facilities*	Lvl 2: *Structural*	Lvl 3: *Managed*	Lvl 4: *Pro-active*
Strategy				
Ecosystem				
Process & governance				
Outcome				
Culture				

Figure 3. Matrix for elaborating innovation maturity JenV

The Einsteinbrigade

One of the results to be achieved is to stimulate bottom-up innovation by intensively involving employees in problem definitions, innovative solutions and experiments. The IND interprets experimentation as the validation of assumptions about new ways of working or the application of new technologies. This can be both internally or externally focused, meaning, a new medium for reaching applicants, or other ways of distributing internal information to employees instead of emails. Experimentation happens in many places within the IND, but for true bottom-up innovation, the Einsteinbrigade was established. Because they have the freedom within the organisation to fully focus on bottom-up innovation, they directly contribute to making the IND more agile because of their faster validation of new products or services.

When the Einsteinbrigade finishes an experiment, they deliver their results with an additional recommendation which can be either positive or negative. A positive recommendation can be that the innovation should be further researched or implemented (depending on the purpose of the experiment). A negative recommendation is that the innovation does not prove to be valuable to the organisation, and therefore does not need to be investigated or developed further. In any case, the Einsteinbrigade considers each completed experiment successful.

But, as some may know, there is no innovation without implementation (Klein & Night, 2005). The Einsteinbrigade is currently experiencing the bottleneck that too many of their experiments with a positive recommendation are not followed up, which contradicts the content of the IND's 2023 annual plan (IND, 2022). It is not clear to them what causes this, but it frustrates them that some of their valuable insights are not followed up.

In addition, this lack of follow up creates the negative consequence that it reduces support for innovative ideas coming from operational employees (Klein & Sorra, 1996). To ensure that bottom-up innovation is successfully executed from idea to implementation AND is supported within the organisation, it is essential that this phenomenon is carefully analysed in order to then design an appropriate and desired solution.

"When an experiment is completed, it feels a bit like your own baby, which makes it very unfortunate if nothing then happens with it"

The initial design brief

The aim of the project is to analyse what causes experiments with a positive recommendation not to progress beyond the advisory report. Subsequently, the project aims to propose a suitable intervention design to address this issue effectively. Based to existing information, the implementation phase represents the most significant obstacle impeding the successful execution of bottom-up innovation inside the IND, making the focus on this phase strategically justified. In addition, it is worth noting that by focusing on the implementation phase, the research not only aligns with the previously stated third outcome, but also benefits the second outcome, increasing its relevance.

This brings us to the initial design goal:

"Design a solution for the Einsteinbrigade that increases the likelihood of implementation of completed experiments with a positive recommendation."

Research questions

To achieve this stated design goal, certain key aspects need to be investigated. Therefore, the following main research question has been formulated:

"Why are completed experiments with a positive recommendation from the Einsteinbrigade not followed up with implementation?"

To answer this question, some sub-research questions were drafted to guide the study:

1. What is understood and what is needed for bottom-up innovation and implementation?
2. What factors increase the likelihood of implementation?
3. What are the current innovation and implementation processes and who is responsible for these processes?
4. What are IND's challenges hindering implementation?

Project approach

Value of a designer

The problem underlying the chosen design goal can be qualified as a wicked problem. Wicked problems can be defined as *problems with high levels of complexity, uncertainty, and divergence of values between different stakeholders* (Head, 2008). It should also be mentioned that in isolation, these characteristics do not lead to a wicked problem, but only when combined. Although these problems have been around for some time, and the first attempt at a definition dating back to 1973 (Rittel and Webber, 1973), the government and its organisations have increasingly been dealing with this type of problem in recent times (Holierhoek & Price, 2019).

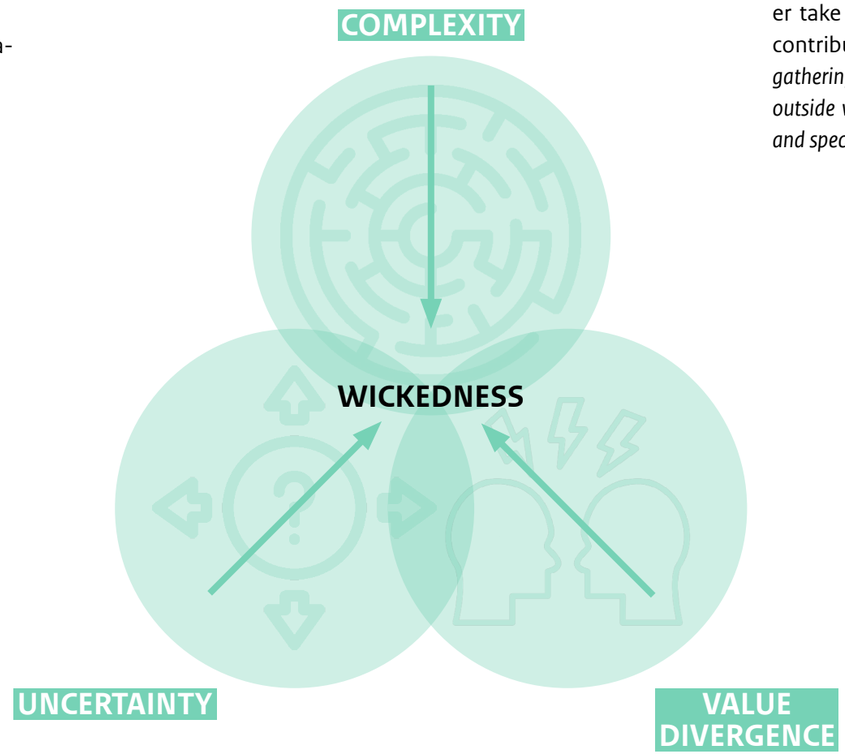


Figure 4. 'Wicked' problem as a combination of complexity, uncertainty and divergence (Head, 2018)

These wicked problems require a different approach from what is currently common within government organisations. Because of the knowledge and skills acquired, designers have proven to be well-suited to these types of problems. This starts with framing the initial problem from a complex context, from which a design goal can be formulated. With the insights gained researching the problems owner and its context, the goal will most likely have to be adjusted, making it an iterative process that uses zooming in and out to better understand the problem. By combining creativity and scientific thinking with making ideas tangible quickly to test assumptions, designers are able to create a lot of value with relatively few resources. This in essence is the core of innovation, which differs from the native linear approach of most governmental organisations. It is therefore valuable for the IND to have a designer take part in this complex challenge. At last, it also contributes to their fourth aforementioned outcome; *gathering external knowledge through cooperation with the outside world, knowledge institutes, universities and colleges and special companies.*

A designer's approach

This project uses multiple design methods and tools to make concrete steps from identifying the problem to validating the final design. Although no specific approach was chosen for this project, the final approach and course is very reminiscent of the Systemic Design Framework. The framework makes use of a combination of System Thinking and Design Thinking, making it suitable for the wicked problem of this project (Jones, 2014). Within the framework, a Double Diamond diagram is used to visualise a standard design process, as can be seen in Figure 5. Although this diagram suggests that the design process is a linear journey, in practice it is iterative with constant switching back and forth. It is therefore decided to structure this report in the form of the Double Diamond model, but it will not guide the choice of individual methods and steps. During the course of the project, each design step was carefully examined and considered which methods could be applied.

The Systemic Design framework is divided into eight sections of which six sections were used for this project. ORIENTATION AND VISION SETTING was conducted prior to the project from which the design brief emerged. The project itself falls within the Double Diamond process in the middle. In the EXPLORE phase, the problem posed in the Design Brief is investigated, which has a divergent character. In the subsequent convergent REFRAME phase, the main problem is dissected from which challenges and opportunity fields emerge. Between the diamonds, a direction is chosen for the course of the project. In the next diamond, the CREATE phase is started, in which possibilities within the chosen opportunity field are explored. From this, the best option is chosen, worked out and tested. In the CATALYSE phase, the final concept is delivered. Recognising that this project has not completely solved the problem, recommendations have been written for a possible CONTINUING THE JOURNEY.

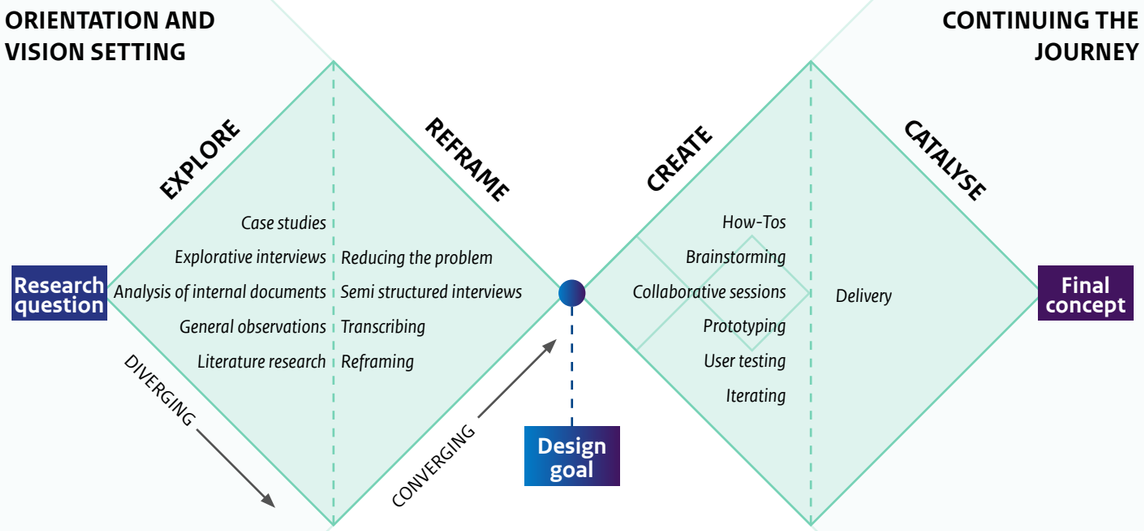


Figure 5. Partial Systemic Design framework including used methods per phase

Explore the organisation

During the explore phase, a foundation is first laid about bottom-up innovation and implementation so that the organisation and its processes can be analysed more attentively. With the aforementioned research questions as the central thread, the insights are used to flexibly decide which smaller steps to take in order to answer the questions.

Reframe the problem

Gradually, more clarity emerges during the exploratory phase, leading to a smooth transition to the reframing phase. Because of the complexity of the problem, a reductionist approach is used (Mazzocchi, 2012). This involves decomposing the main problem into different challenges to understand what contributes to the main problem. From there, a reframed problem statement can be formulated that describes the implications for implementing bottom-up innovation from the identified challenges. From this, the main bottlenecks are extracted, which can then be translated into design goals. Selection and validation of the insights and opportunity areas is done in consultation with key stakeholders.

Create solutions

During the create phase, opportunities to achieve the goal will be explored within the design goal. This phase will consist of two smaller design phases, the first of which will look at different ways to apply principles that increase the chance of implementation from the previously collected literature. Next, the insights gathered will be used to identify different useful tools with which the principles can be used by the Einsteinbrigade. Both phases include testing with the target group to gain insights and iterate, and the creation of prototypes.

Catalyse change

To catalyse change, a prototype was delivered to the Einsteinbrigade to work with. This will be reflected on through a conclusion and discussion. Limitations of the project will also be given as recommendations on the future.

Explorative interviews were conducted to empathise with stakeholders and better understand the context. *Case studies* were done to get deeper meaning from insights from interviews. *Analysis of internal documents* was performed to gain an even deeper understanding of processes and case studies. *Literature research* has been carried out to fill in gaps or give certain observations more foundation.

Semi-structured interviews within the framed relevant context were conducted to gain a deeper understanding of the observed bottlenecks. By keeping it semi-structured, it gives the opportunity to freely respond to what is being said within the set framework, while keeping the focus on what is relevant. Interviews were *transcribed* to gather essential information and insights from what was said. This allowed dissecting multiple sub-problems and challenges, which helped in *reframing* the initial problem. The design directions were prepared using *frame innovation*, a design approach that focuses on how problems are framed and understood by different stakeholders (Dorst, K. 2011).

From the earlier literature review, principles that increase the chance of implementation were determined. Through the use of *how-tos* and *brainstorming*, ideas were generated. Both were done in *individual* form as well as *collaborative* form. *Workable prototypes* were designed from the generated ideas. Using *user tests*, the principles tested to gain general insights, as well as strengths and weaknesses in order to *iterate.*

The final design was delivered to the users.

Explore the organisation

This section will discuss the context of the problem and the limiting factors within the IND that prevent the implementation of bottom-up innovation experiments. To understand which factors within the IND influence this problem, a foundation will first have to be laid for the concepts of bottom-up innovation and implementation. Based on the research questions, both concepts will be analysed, from which it will be possible to conclude what to pay attention to during the analysis of the organisation. This will be followed by an internal analysis of the organisation investigating, among other things, existing processes, agreements and culture. By comparing the conclusions from the literature with the IND's analysis, challenges that impact bottom-up innovation will emerge, which will be discussed last.

The Approach

As implied by the previous chapter, approaches to address the issue of implementation will rely on qualitative research methods. First, literature research is conducted to better understand the concepts of bottom-up innovation and implementation, paying attention to factors that are essential for both concepts to succeed. In parallel, interviews will be conducted and will have a leading role in understanding the organisation, as the employees of the IND are regarded as experts, and so their knowledge will be built and relied upon.

These interviews are mainly aimed to gain a deeper understanding of current processes, dynamics and motivations that are not documented. In addition, these experts can refer to or share key documents to support what is discussed. Finally, additional literature research is conducted throughout to strengthen argumentation and fill any knowledge gaps. An overview of where the knowledge was obtained within the INDis shown in Figure 6.

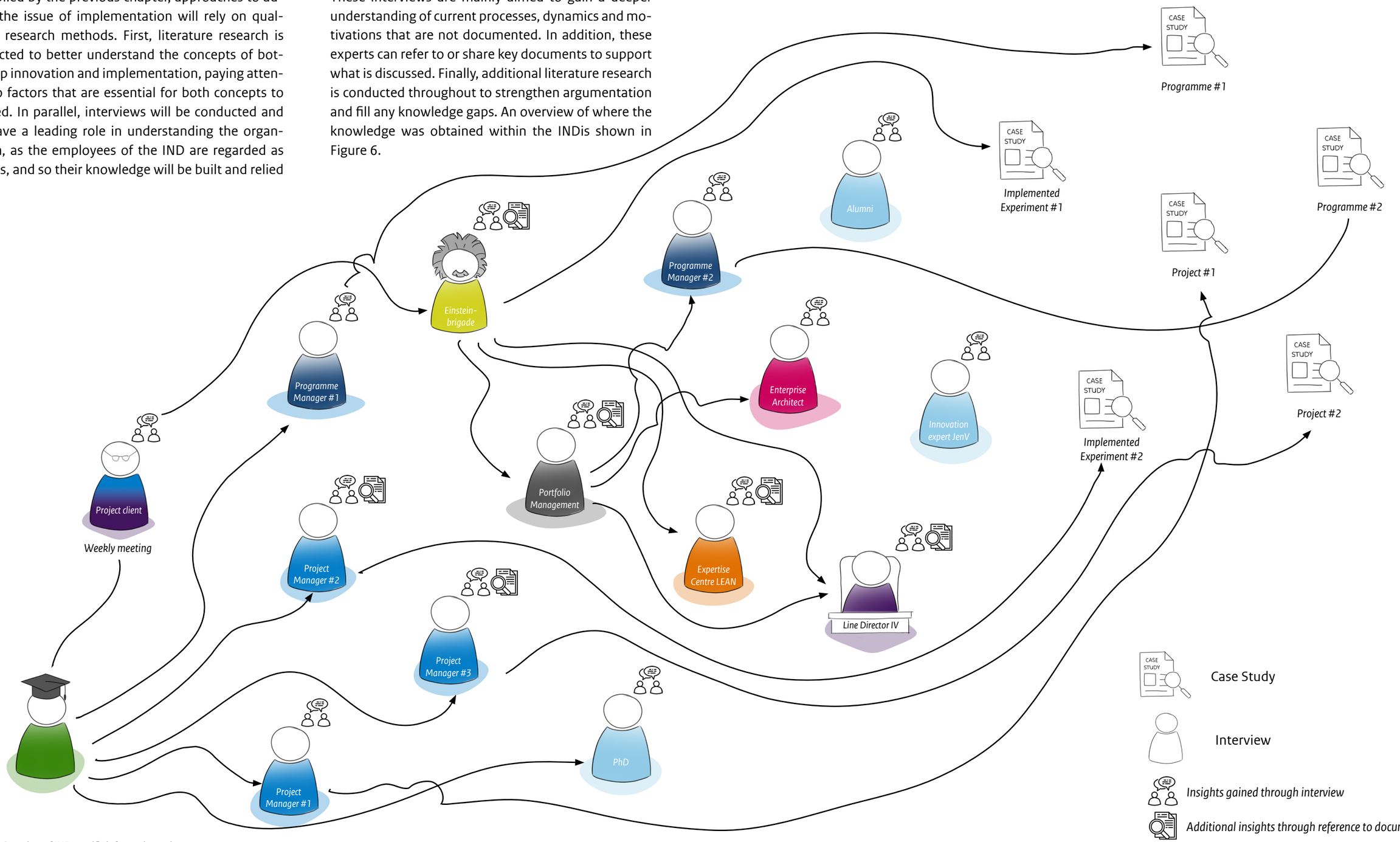


Figure 6. Overview of IND specific information points

Theoretical foundation

The literature review is conducted to lay a foundation about the concepts of bottom-up innovation and implementation, answering the first two sub-research questions.

1. **What is understood by and what is needed for bottom-up innovation and implementation?**
2. **What factors increase the likelihood of implementation?**

The concept of bottom-up innovation will be outlined first, followed by the concept of implementation. Finally, the necessary conclusions will be drawn from these analyses.

Bottom-up innovation

Definition and key characteristics of bottom-up innovation

Before the term bottom-up innovation can be treated, it must first be made clear what is meant by innovation. Because the nature and purpose of a public organisation is different from that of companies, the nature of innovation is also different. Therefore, we used a definition a study by Bloch & Bugge (2013) that reads as follows:

"An innovation is the implementation of a significant change in the way your organisation operates or in the products it provides. Innovations comprise new or significant changes to services and goods, operational processes, organisational methods, or the way your organisation communicates with users."

What clearly emerges is that it is about changing a certain existing concept, allowing innovation to exist in many different forms, varying from small changes such as behaviour to big changes such as a reorganisation. These innovations all start with an idea to do something in a different way. Gaynor (2013) states that within organisations, a distinction is mainly made between two origins of innovation, *Top-down* and *Bottom-up*. Here, he defines *Top-down innovation* as the innovation process that originates from the organisation's strategic direction and is driven by formal channels such as R&D, product development, and marketing. *Bottom-up innovation* on other hand is the innovation process that originates from individuals within the organisation, allowing everyone to participate in the innovation process.

The main difference here lies in the origin of the idea. Top-down innovation ideas originate from the organisation's strategic planning and formal channels, while bottom-up ideas emerge from individuals within the organisation, such as operational employees or middle managers. This makes top-down innovation projects typically part of fully funded organisational initiatives with specific objectives and timeframes, whereas bottom-up innovation efforts start as individual initiatives and may later become official projects after demonstrating feasibility and gaining organisational recognition. So the goal of both "forms" of innovation is the same, which is to improve the organisation, but the origin and context are thus different.

But besides this difference, bottom-up innovation has more key characteristics that make it different from top-down innovation. From Borins (2002), Gaynor (2013), and Linssen (2018), the following key characteristics were derived;

1. **Organisational innovation culture:** Bottom-up innovation is often accompanied by an organisational culture that encourages and supports employee participation, creativity, and the sharing of new ideas. This includes collaboration between different units or departments, which leads to the establishment of coordinating structures like interdepartmental committees. Informal networks within the organisation also play a crucial role, as employees leverage their relationships based on knowledge, experience, and influence to drive ideas forward, bypassing formal hierarchies. This enables an involvement of a diverse number of participants, which brings fresh perspectives and ideas, but also higher quality multi-perspective decision making. The use of online platforms with profiles and threaded discussions enables easy access to knowledge and fosters collaboration.
2. **Leadership and advocacy:** In order for the innovative culture to blossom, top-level management often champions and supports bottom-up innovation. Since the origin of innovations comes from the operational layer of the organisation, it also has to gain support in a different way. This is why bottom-up innovation often involves so-called informal leaders or advocates. The innovators driving bottom-up innovation often act as informal leaders within the organisation. They take the initiative to identify problems, propose solutions, and mobilise support for their ideas within the organisation. They may not hold formal leadership positions but gain visibility and recognition through their innovative efforts. Advocates within the organisation champion the proposed ideas, often leading to debates within the organisation to evaluate and refine the initiatives.
3. **Resourceful Approach:** In practice, bottom-up innovation also often involves creative use of resources in order to convince stakeholders. Innovators pursuing bottom-up innovation need to demonstrate the feasibility of their ideas, typically by convincing themselves, their colleagues, and several levels of management of its value. This means being resourceful and finding the necessary resources to demonstrate feasibility, sometimes by accessing resources available within the organisation in unconventional ways. Furthermore, innovations may be introduced as pilot programs to test their viability before full-scale implementation, allowing for evaluation and adjustments. This often calls for more agile resource allocation. When an idea is found to be unviable, resources can quickly be reallocated to more promising concepts without being tied up in formal decision-making processes.

Requirements for bottom-up innovation

The previously mentioned key characteristics can be translated into requirements that an organisation must meet to successfully execute bottom-up innovation. These are needed to determine which elements are present and which are missing during the analysis of the IND, and are as follows:

1. Ideas originate from the lower levels of an organisation, with operational employees, middle managers, or individuals in non-leadership roles being the primary initiators.
2. A collaborative culture and infrastructure to share knowledge, information and ideas that supports collaboration and makes everyone feel comfortable to do so.
3. The need and ability to be flexible with resources to demonstrate the feasibility of the innovation in order to convince stakeholders of the value of the innovation.
4. Leadership, both informal and formal, that supports bottom-up innovation by giving space to collaborate, identifying problems, championing innovation and leading discussions about proposed ideas.

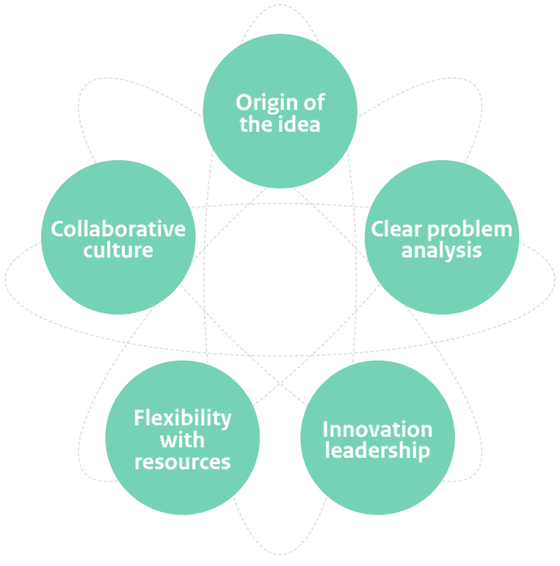


Figure 7. Requirements for bottom-up innovation

As mentioned, there are 4 elements essential for successfully executing bottom-up innovation. Firstly, ideas originate from the lower levels of an organisation, with operational employees, middle managers, or individuals in non-leadership roles being the primary initiators. Second, a collaborative culture and infrastructure is needed to share knowledge, information and ideas that supports collaboration and makes everyone feel comfortable to do so. Third, there is a need to be flexible with resources to demonstrate the feasibility of the innovation in order to convince stakeholders of the value of the innovation. And at last, there must be some form of leadership, both formal and informal, that supports bottom-up innovation by giving space to collaborate, and championing and leading discussions about proposed ideas.

Besides these four conditions of bottom-up innovation concluded from the literature, there is another condition that did not emerge during the study. Namely, that innovation starts with framing and clarifying the problem, which is what happened for this project, for example. This is very crucial for the rest of the process, as an unclear problem can cause problems during the development of the solution. Only with a clear problem and its exploration can innovation be successful. Therefore, a clear problem analysis leading to framing the problem will be included as a fifth requirement for bottom-up innovation.

Finally, although the conditions are described as separate elements, it is recognised that they are heavily intertwined.

Implementation

Definition and key characteristics of implementation

A final requirement, and perhaps the most important, not covered in the previous subchapter, is the implementation. Bloch & Bugge's (2013) aforementioned definition of innovation clearly states that innovation is the implementation of change. This is supported by Gaynor (2013) and Klein & Night (2005), who argue that without implementation, innovation does not exist.

To better analyse the IND's implementation process and associated steps, it is necessary to first build a foundation of the concept of implementation. Since the assumption is that there is no uniform concept used for implementation, several pieces of literature were looked at to identify overlap and differences, of which the following recurring features emerged. This process showed that implementation is a commonly used term, but also validated the assumption that there is no uniform definition for it.

First of all, implementation is an integral part of the innovation process, where the goal is to implement a valuable innovation or improvement (Grol & Wensing, 2006, Wissema, Messers, & Weijers, 1991). It involves a process-based and/or planned introduction of the innovation or change (Stals, 2012; Bal, R., A. de Bont, M. de Mul, 2010, Ministry of Health, Welfare and Sport, 2023). However, it includes more than just the introduction of a new technology or way of working itself. For example, it also includes the prior activities aimed at aligning the desired business processes, organisation and systems (Muntslag, 2001; Pater, Roest, Dubbeldam & Verweijen, 2002; Cambridge Dictionary , 2023).

In addition, implementation processes need to be specifically described because they need to be goal-oriented so that the effectiveness of those processes can be determined (Fixsen, Naoom, Blase, Friedman & Wallace, 2005). Here, it is important to understand what has been the strength of these processes in order to learn and iterate.

Finally, an important aspect of implementation is that the change should be sustainable. The aim is to achieve lasting change (Stals, 2012; Pater, Roest, Dubbeldam & Verweijen, 2002). It is about ensuring that the implementation leads to a lasting improvement and that the change is embedded in the organisation in the long term (Cozijnsen & Vrakking, 1992).

Combining these aspects gives the following literature definition of the concept of implementation:

"Implementation is the process-based and planned introduction of an innovation, change, or intervention into an organisation or sector, aiming to incorporate it into daily operations and achieve sustainable outcomes. It involves working arrangements, activities, and measures that facilitate the integration and improvement of the intended change."

Principles influencing implementation

As discussed earlier, one of the requirements of bottom-up innovation is having certain leaders within the organisation who champion innovation. Part of this championing is persuading and influencing other employees about the value of the innovation, to ensure that the innovation is implemented (Kleysen & Street, 2001). The success of an idea from an operational employee is thus highly dependent on the persuasiveness of convincing powerful/influential ones about the value of the innovation (Dougherty & Hardy, 1996).

Because people differ, it is assumed that not everyone can be convinced in the same way. Rogers (1995) describes that based on the difference in the tendency to accept innovations, users can be divided into different types: *innovators , early adopters, early majority, late majority and laggards* or *laggards* (see Figure 7).

Innovators are innovation-oriented individuals. These users enjoy participating in changes and will quickly move towards acceptance. They are characterised by their fascination with novelty, curiosity, and their willingness to take risks. *Early adopters* are opinion leaders. They seek innovation (less than innovators) and, for this purpose, they have contacts with innovators and among themselves. They have many connections and are socially adept. *Early adopters* choose various innovations to test in their own practice and enjoy sharing their experiences. The *early majority* is the group that observes the early adopters. They follow innovations from a distance. They are primarily focused on internal work processes and are averse to taking risks. As innovations become more concrete - and the risks decrease - the early majority starts to take action. The *late majority* is more conservative and more focused on their own work processes compared to the early majority. The late majority observes the early majority. Once the late majority detects signals that the innovation is becoming a part of the work process, they will be inclined to adopt the intervention. *Laggards* are traditional professionals who prefer to keep things as they are and are reluctant to see any changes in their actions and activities.

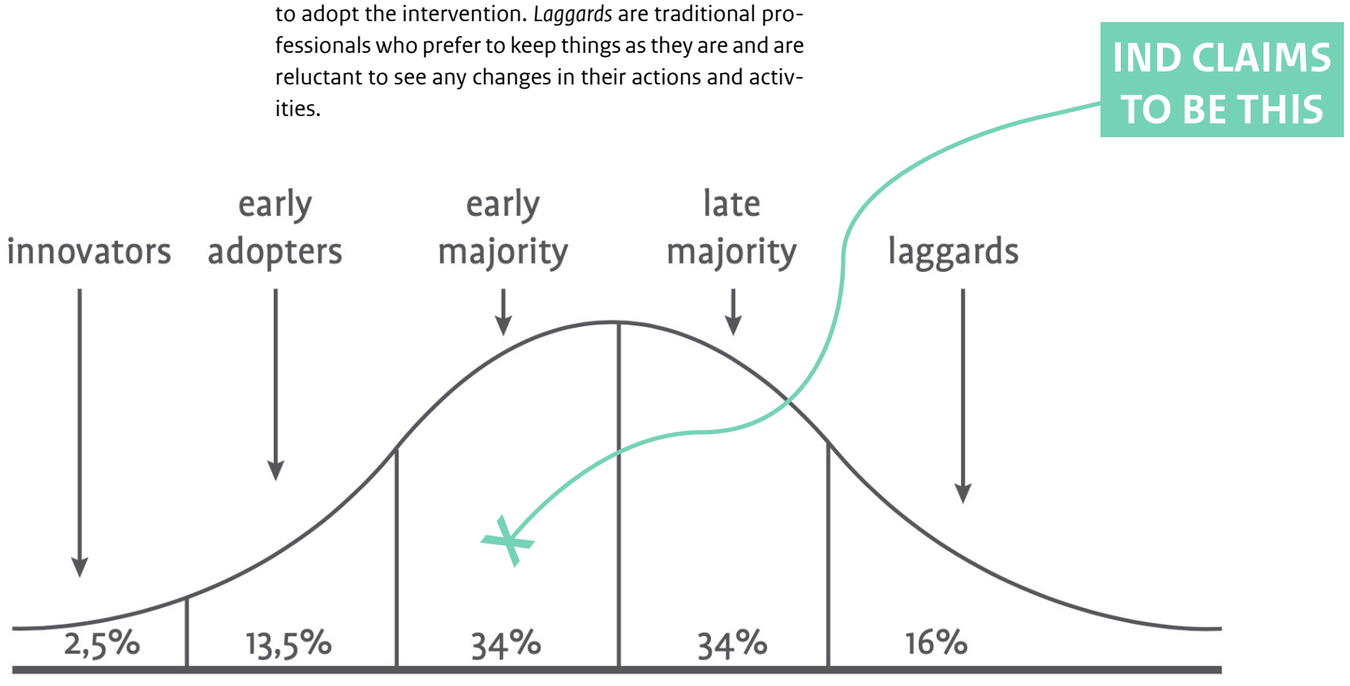


Figure 8. Categories of types of individuals by speed of adoption, after Rogers (1995)

As an organisation, the IND claims to be a "rapid follower" of new innovations (IND, 2022), which in the model corresponds to the early majority. However, at this stage, it cannot be said whether this corresponds to the reality of the IND. Because multiple categories are assumed to be present in reality, a wide range of factors will be looked at.

To respond to these different types, we looked at several principles that increase the likelihood of implementation. The literature reviewed revealed factors that have been proven to influence the implementation of an innovation. The factors are categorised by *characteristics of the innovation, influencing mental models* and *Verbal mastery.*

Characteristics of the innovation

In their publication, De Groot and Van der Zwet (2016) identify 5 different characteristics of an innovation that, according to their research, increase the likelihood of successful implementation:

1. The expected benefit
2. The compatibility
3. The ability to try out
4. The complexity
5. The ability to observe

The expected benefit of the innovation refers to the measurable impact the innovation has. The innovation should provide the user with a relative advantage over the existing way of working. Users are more likely to adopt an innovation that they think will help them. The user must perceive the innovation as more effective, useful, cheaper or easier than the approach used up to then. *The compatibility* focuses more on the personality of the professional, with the innovation having to match values, beliefs, history and needs. Users are then more likely to adopt an intervention. *The ability to try out* is fairly self-explanatory. Users are more likely to adopt an innovation when they can practise on a small scale first. This allows them to find their own way of working within the framework of the innovation. *The complexity* means that the innovation should not be too difficult to use. Users are more likely to adopt an innovation if it is easy to implement and does not involve complicated processes. It is also important that the user has some room to fit the innovation into their own working methods. *The ability to observe* means that the use and results of the innovation should be clearly visible. Users are more likely to make an innovation their own when they have already had the opportunity to learn about implementation by observing colleagues.

Reshaping mental models

Vink et al. (2019) describe in their work ways to reshape mental models to enable innovation. They define mental models for this as "the user's assumptions and beliefs that guide their behaviour and interpretation of their environment". When existing mental models get in the way of moving innovation forward, it is therefore necessary to influence them. They have found that the following 3 principles are capable of changing mental models.

1. Sensing surprise
2. Perceiving multiples
3. Embodying alternatives

Sensing surprise aims to expose an user's existing mental model so that they are confronted with their fallibility. This is often done through an experience of an unexpected event or stimulus. Here, the user's senses play an important role in bringing about this disruption.

Perceiving multiples involves making existing mental models explicit or comprehensible. This can be achieved by bringing different stakeholders together to let them interact with each other. This exposes the user to other mental models, making them open to other perspectives. *Embodying alternatives* means physically testing different ways of working based on mental models. By letting the user test and experiment, they find out that other ways of working can also be beneficial. An overview of the different principles is shown in Figure 8.

In addition to the definitions, Figure 8 also shows the components and enabling conditions for each principle. During their research, it also emerged that to increase the chances of success per principle, certain conditions must be achieved. For example, for sensing surprise, it is important that a user is involved and understands the context well, and for embodying alternatives that supporting physical materials are present. The enabling conditions of sensing surprise, perceiving multiples and embodying alternatives are central to the process of reshaping mental models.

	Sensing surprise	*Perceiving multiples*	*Embodying alternatives*
Definition	Experiencing a bodily sensation that challenges a user's existing mental model	Becoming sensitive to alternative mental models through interaction with other stakeholders	Enacting different mental models to understand their implications
Components	• An unexpected event or stimulus • New information is taken in through the senses • Feelings of shock or awe	• Several interpretations of one situation are recognized • Direct or indirect discussion with other actors • Feelings of conflict, uneasiness or confusion	• Physical testing of different ways of working • The process of iteration and adaptation • Feelings of uncertain optimism or frustration
Enabling conditions	• Intentional staging of a provocative situation • Coaching an actor to aid them in noticing new things • Actor's engagement and understanding of the context	• Diversity of actors • Openness and safety of actor Visual and tangible tools Skilled facilitation to • Support sharing	• Different context to explore possibilities • Supportive physical materials • Possibility for repetition and ongoing change in ways of working

Figure 9. Changing mental models principles and the corresponding components and enabling conditions, after Vink et al. (2019)

Verbal mastery

Persuading other people often involves verbal communication. This can be done either informally or formally, both of which affect the likelihood of implementation. During formal moments like meetings or presentations, good presentation skills are very important to convince people.

Remco Claassen is a Dutch trainer on leadership, and personal development and communication. About this third area, he has written the book *Verbaal Meesterschap*, in which he shares best techniques to help readers communicate better where they need to. The techniques serve as tools that can be used to captivate, connect and influence the listener.

For example, he always starts his story with *grabbing*. Grabbing is a series of questions starting with an interrogative pronoun + the subject of the story. He follows this up with a *pre-frame*, which is a bridge to the future, and finally concludes with a series of adjectives highlighting the benefits. For example:

Who here has ever had to read endless reports? And who in those moments has ever thought "when am I finally done"? How can we make reading these reports fun? By the end of this report, you will be happier, more energetic and more eager to read reports in the future."

Besides this technique of connecting with the listener, other techniques that help structure a story, use your body and intonation and how to keep attention while speaking are also discussed. It is stated that these techniques were not invented by Remco himself, but he has been collecting the best techniques within his areas of expertise for 15+ years, making the content "not new, but up to date and scientifically based" (Claassen, n.d.).

To get the most out of these techniques, he also recommend to have face-to-face presentations instead of meeting online. Besides the fact that presentations are intrinsically more convincing when delivered face-to-face (Mitchell & Mitchell, 2008), this also ensures equal ground between the Einsteinbrigade and the person to be convinced. This equal ground ensures that there is earlier similarity in knowledge, beliefs and suppositions, increasing the likelihood of persuasion (Clark & Brennan, 1991). This physical aspect of presenting is also supported by the Danish Design Centre. They use a Scenario Kit with a corresponding physical space for stakeholders to listen to and discuss with each other in order to reach a final goal together (Living Futures: Scenario Kit, 2022).

Finally, he strongly recommends not using power point presentations, as they cause attention to be divided, which will get in the way of the purpose of the presentation, being persuading the audience.

Conclusion of the literature insights

The literature study explores the theoretical foundation of bottom-up innovation and implementation, shedding light on the key characteristics and requirements for successful execution. By doing so, it answered the first two sub-research questions.

1. **What is understood by and what is needed for bottom-up innovation and implementation?**

Bottom-up innovation, in contrast to top-down innovation, originates from individuals within the organisation, such as operational employees or middle managers.

The successful execution of bottom-up innovation necessitates specific requirements, including the origination of ideas from lower levels of the organisation, a clear problem analysis, a collaborative culture and infrastructure to facilitate knowledge exchange, flexibility with resources for feasibility demonstration, and supportive leadership that encourages collaboration and champions innovation.

A final requirement is the implementation, which plays a critical role in the innovation process. It is defined as “the process-based and planned introduction of an innovation, change, or intervention into an organisation or sector, aiming to incorporate it into daily operations and achieve sustainable outcomes. It involves working arrangements, activities, and measures that facilitate the integration and improvement of the intended change”.

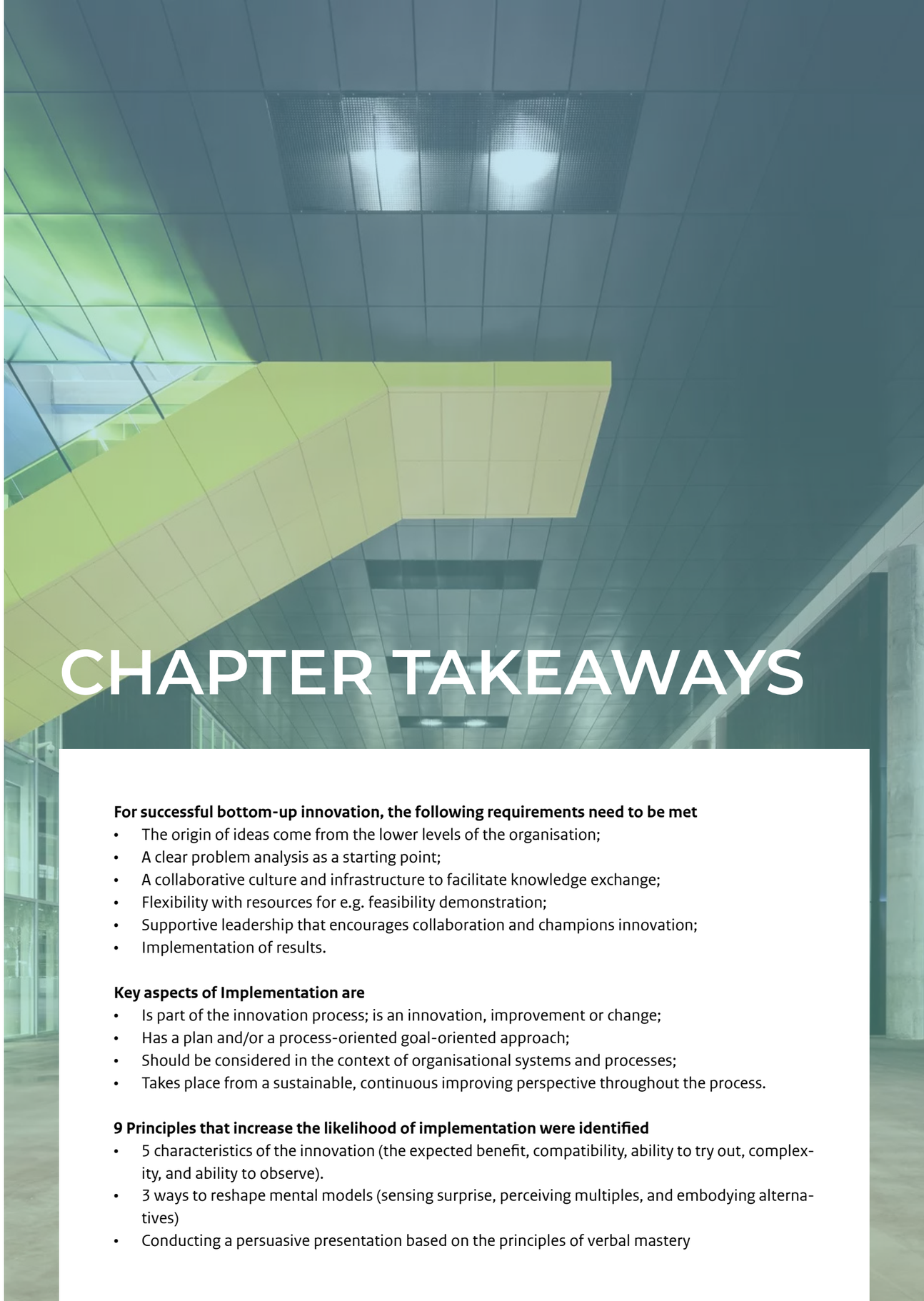
2. **What factors increase the likelihood of implementation?**

To influence successful implementation within the context of bottom-up innovation, leaders play a crucial role in championing and persuading other employees about the value of the innovation. Factors that influence the likelihood of implementation include the characteristics of the innovation itself, influencing mental models, and verbal mastery.

Characteristics of the innovation include the expected benefit, compatibility, ability to try out, complexity, and ability to observe.

To reshape mental models for innovation, three principles were proposed: sensing surprise, perceiving multiples, and embodying alternatives. Sensing surprise exposes existing mental models through unexpected events, perceiving multiples makes mental models explicit through interaction among stakeholders, and embodying alternatives involves physically testing different ways of working based on mental models.

Verbal mastery is essential for convincing others during formal moments like meetings or presentations. Techniques such as “grabbing” to start a story, pre-frames to bridge to the future, and highlighting benefits with adjectives enhance communication and influence. Face-to-face presentations without the use of a power point presentation are recommended for enhanced persuasion and equal ground between the Einsteinbrigade and the person to be persuaded.



CHAPTER TAKEAWAYS

For successful bottom-up innovation, the following requirements need to be met

- The origin of ideas come from the lower levels of the organisation;
- A clear problem analysis as a starting point;
- A collaborative culture and infrastructure to facilitate knowledge exchange;
- Flexibility with resources for e.g. feasibility demonstration;
- Supportive leadership that encourages collaboration and champions innovation;
- Implementation of results.

Key aspects of Implementation are

- Is part of the innovation process; is an innovation, improvement or change;
- Has a plan and/or a process-oriented goal-oriented approach;
- Should be considered in the context of organisational systems and processes;
- Takes place from a sustainable, continuous improving perspective throughout the process.

9 Principles that increase the likelihood of implementation were identified

- 5 characteristics of the innovation (the expected benefit, compatibility, ability to try out, complexity, and ability to observe).
- 3 ways to reshape mental models (sensing surprise, perceiving multiples, and embodying alternatives)
- Conducting a persuasive presentation based on the principles of verbal mastery

Uncovering how the IND improves itself

Now that a foundation of bottom-up innovation and implementation is present through the literature study, it is possible to look more attentively at the situation within the IND. The next section will first discuss the stakeholders involved in innovation and implementation within the IND. Next, the various innovation processes will be identified and analysed. These insights were gained through informal discussions and semi-structured interviews with IND employees that were introduced in the previous chapter. Finally, internal documents were used to gain further insight into documented definitions, agreements and processes.

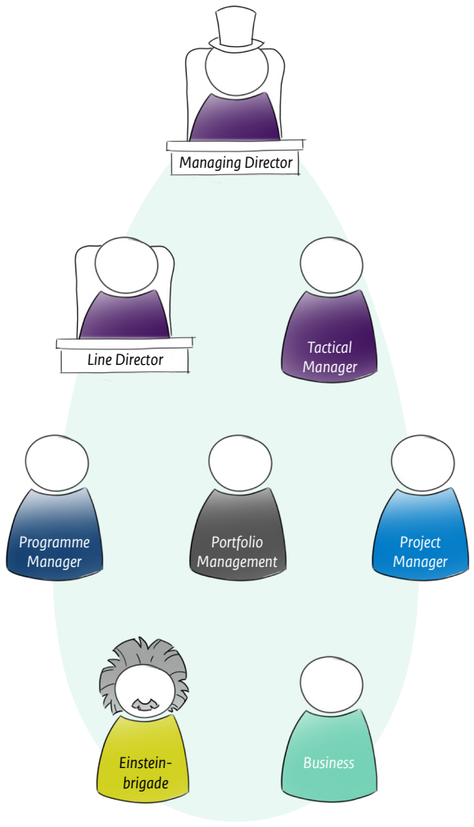


Figure 10. Overview of key stakeholders regarding innovation and implementation within the scope of this project

Overview of the stakeholders

Line Organisations

As an organisation, the IND is divided into 7 different so-called Line Organisations; Asylum and Protection (A&B); Operational Management (BV); Services (DV); Information Provision (IV); Legal Affairs (JZ); Regular Residence and Dutch Citizenship (RVN); and Strategy and Implementation Advice (SUA). Each Line Organisation has a Line Management, consisting of a Line Director and a number of Tactical Managers, involving various responsibilities and powers. As these Line Organisations all have their own responsibility and focus within the organisation, their interests can clash from time to time.

The operational composition within the various Line Organisations is highly dependent on the line itself. However, it was concluded that within the line, a composition of operational staff often recurs under the direction of operational managers. In the remainder of this project, all operational staff and managers of all Line Organisations will be referred to as the *Business of the IND*.

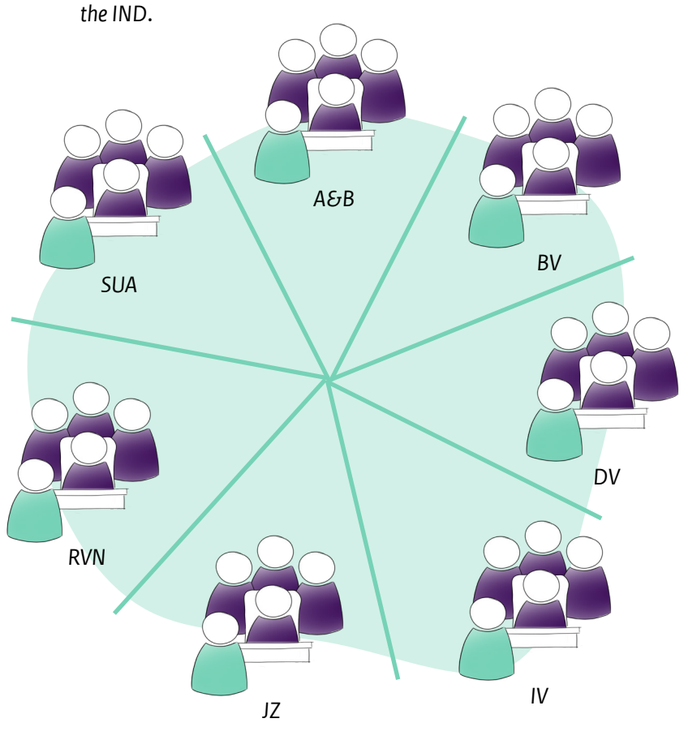


Figure 11. Division of the IND

MT IND

IND's management team, or MT IND, is the highest body within the IND. The MT IND consists of a combination of several IND executives, namely the Managing Director, two acting Managing Directors, and the Line Directors. The MT IND is mainly focused on the big strategic issues with which they steer the rest of the organisation. As such, they find themselves directly between the political and the operational power of the organisation, listening to both in order to execute the policy as well as possible.

The Managing Director bears ultimate responsibility for implementation of the execution of the policy. In addition, the Managing Director, in combination with the two acting Managing Directors, is continuously in contact with the core department, politicians, cooperating organisations and social organisations.

In addition, the MT IND also consists of Line Directors. This allows them to relay signals from the organisation and make them discussable within the MT, but also vice versa.

Portfolio Board

To gain more control over all ongoing initiatives within the IND, a decision was made to centralise these initiatives so that "the right things happen in the right way". This eventually took the form of the Portfolio Board (PFB). The PFB consists of the MT IND and is advised by the Portfolio Management and the Portfolio Advisory Group (PAG). The PAG consists of the Tactical Managers from each Line Organisation. Portfolio Management supervises both the PFB and the PAG. The PFB governs the portfolio, which consists of programmes, projects and epics & features. For new requests, every quarter they assess and approve whether they contribute to the objectives, and ensure that each initiative has a Client (Line Director or Tactical Manager responsible for the change initiative appointed to). For the ongoing portfolio, they make choices about prioritisation, deployment of capabilities, and stopping low-priority content or content that does not (or no longer) contribute to the goals. Thus, the PFB does not govern the exact content of the initiatives, but rather what initiatives are being executed, and thus the people and resources it requires.

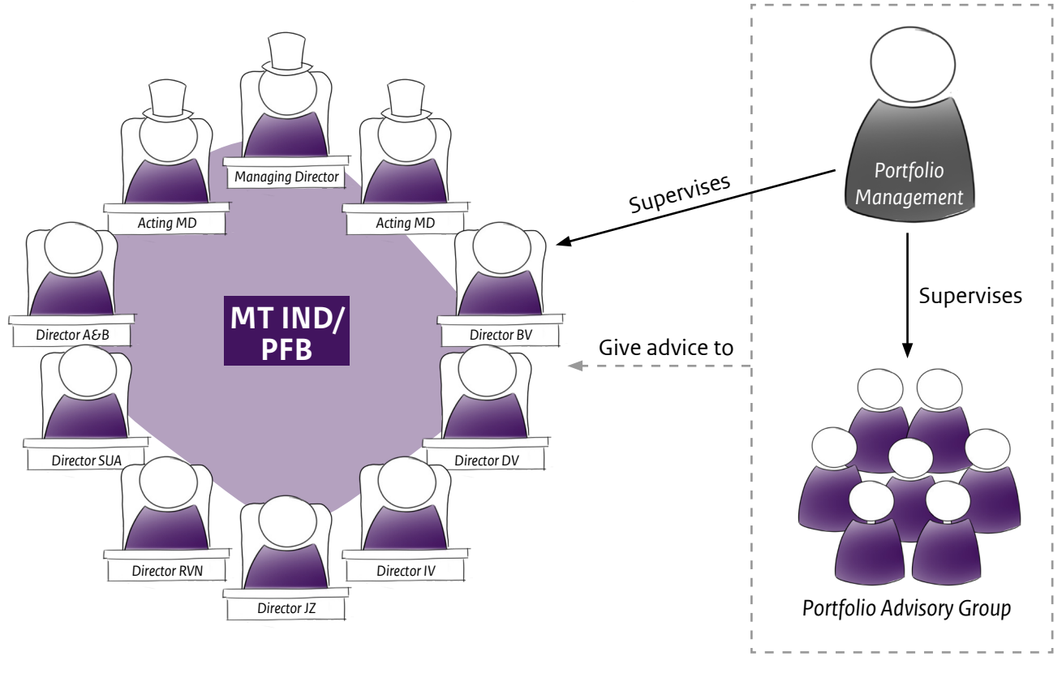


Figure 12. Overview and relationships of the MT IND/PFB, Portfolio Management and the Portfolio Advisory Group

Programme and project management

Within the IND, programmes and projects, among others, are used to make changes to the way they work. In order to supervise these initiatives, so-called programme and project managers are appointed. Programme and project managers are responsible for the day-to-day management of one programme (collection of projects) or one project. They pro actively identify risks and present choices to programme or project Steering Committee.

Each programme and project has a Steering Committee consisting of the Client, the Senior User and the Senior Supplier, of which, for this project, only the Client is of interest. The Client is the delegate who wants to set-up the programme or project, and due to mandate rules is always a Line Director or Tactical Manager.

Programme and project Steering Committees take decisions to support the progress of a single programme or project. They provide governance to the programme or project to achieve the agreed goals, results and/or benefits according to the plan (steering for outcome).

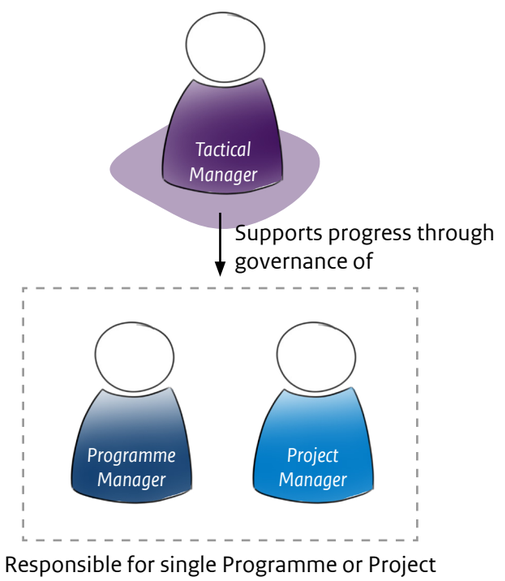


Figure 13. Relations between Programme and Project Manager and the Client

Einsteinbrigade

The last major stakeholder within the scope of this project is the Einsteinbrigade itself. The Einsteinbrigade consists of 5 Innovation Managers and was brought to life to facilitate bottom-up innovation within the organisation. This means they both actively and passively pick up ideas from the Business of the organisation to then experiment on these ideas. As a department, they are included in the PFB under the Line Organisation IV, giving them an ICT-focused view of innovation and the obligation to report to the Line Director IV . This is because the IND is an information-driven organisation due to the digital processing of statuses. However, this does not mean that only ideas are handled from the Line Organisation IV.

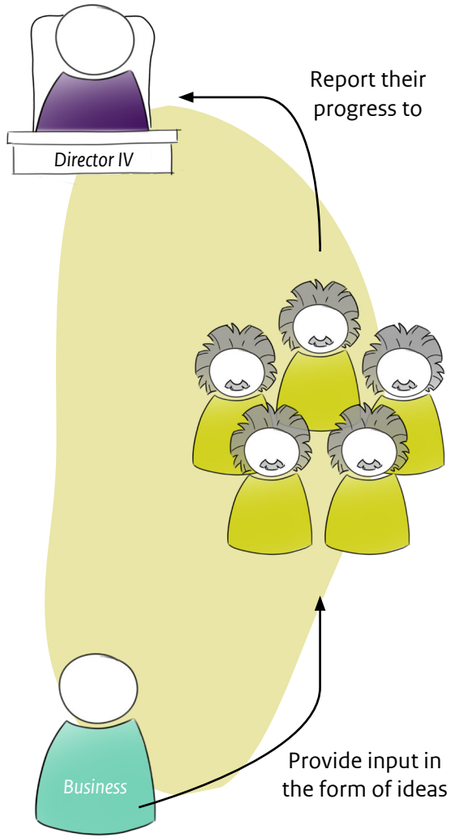


Figure 14. Relations between the Einsteinbrigade, the Business and IV

IND's view and processes for improvement

Now that the stakeholders within the scope of this project have been introduced, the different processes for improvement within the IND can be properly examined. For this, it first has to be established how improvements and implementation are perceived within the organisation. It emerged during the analysis that there is a divided opinion within the IND on the concept of innovation. For example, the IND's 2023 annual plan states that innovation means that *they are continuously working to improve themselves, which means innovating the work and processes step by step*. On the other hand, the Innovation Programme talks about innovation when *the change has a 5X-10X upside factor*, e.g. something is 5X faster than before, or 8X cheaper than before. Finally, the Einsteinbrigade talks about innovation when *the change amounts to something the IND does not yet do/use*.

For the scope of this project, it was chosen to use the Einsteinbrigade definition when talking about innovation within the IND.

RUN and CHANGE

Within the IND, operations are categorised under the labels RUN and CHANGE (Rijksportaal, 2023). RUN refers to the day-to-day operations of an organisation, including all of its processes, procedures, and activities that are required to keep the organisation functioning (±80% of an employee's workload). This includes the actual execution of the work, and everything needed to support the work day-to-day. For *hoor- en beslismedewerkers*, this includes, for example, handling applications, but also having meetings, consultations, knowledge exchange, etc. CHANGE, on the other hand, involves the planned alterations in the way an organisation operates, such as changes to its processes, procedures, policies, strategies, or structures (±20% of an employees workload). For this purpose, certain CHANGE initiatives are set up whose goal may vary from one initiative to another. For example, to stay consistent with the RUN example, for *hoor- en beslismedewerkers* this could consist of being part of an project exploring whether an iteration can be made on the application process of applicants to share knowledge and test. An overview of RUN and CHANGE and how they relate to each other can be seen Figure 14.

1. *Admissions staff suffer from computer systems that do not adequately support the work. As a result, local workarounds and ways of working are developed. This takes time, promotes errors, is systemically vulnerable, conflicts with working uniformly across locations, etc.*
2. *Development new IT system is placed within the PFB.*
3. *Admissions staff should start working with this IT system. To give input to the builders of the system and to properly supervise commissioning of the system, this is formulated as a separate project in the annual plan.*
4. *When the project group ceases to exist (IT system implementation completed), it is up to the line organisation to use it and pass on signals to the IT club for the necessary further development. So from this moment on, the new system is part of the RUN.*

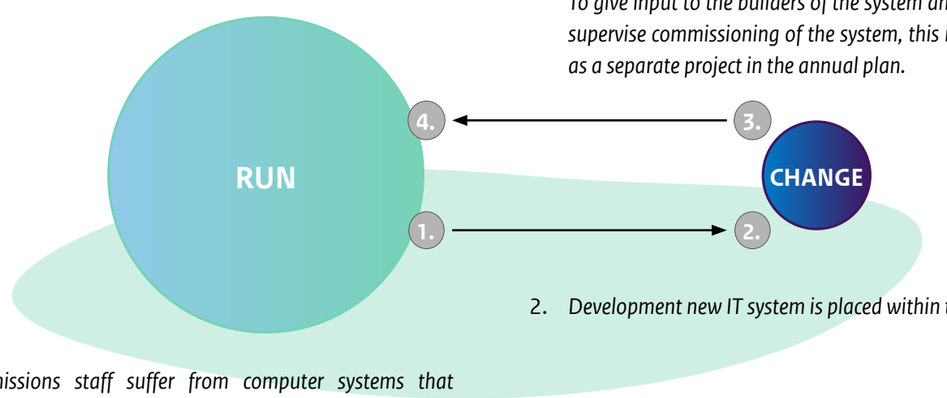


Figure 15. The interaction between RUN and CHANGE

As shown in Figure 14, there is a direct relationship between RUN and CHANGE within the IND. From properly observing the RUN, necessary changes are identified that are needed for teams, locations, management or organisation to continue doing the job well in future. From this, initiatives are initiated that are placed under CHANGE. Within CHANGE, an initiative is consequently set up to appropriately investigate what, among other things, this change should look like and realise the request. When the initiative is successful, it is implemented in the system to make it ready to use. From that point, the Line Organisation from which the request came, is responsible to incorporate the change into the way of working. When this is completed, it is officially part of the RUN. To make these abstract terms more clearer, an example was chosen from the IND's practice which can be seen also be seen in figure 14.

What should be noted here is that RUN and CHANGE actually describe a distribution of an employee's time, rather than a distribution of the IND's work. Thus, what is regarded as CHANGE for one employee may be RUN for another. For instance, the RUN for developers of the IT systems is to maintain the systems and make desired changes, while the input for this falls under CHANGE for other operational employees.

What the analysis of CHANGE and its example show is, firstly, that for the IND to improve, an official initiative have to be set up where resources have to be allocated. These resources consist of people's time and money, with people having to give up some of their RUN time to an initiative.

Second, step 4 in Figure 14 shows that implementation within the IND is split into (1) implementing the innovation within the existing environment or way of working, and (2) merging the use of the innovation into the daily way of working. Here, the responsibility of the first part lies with the initiative team that created the innovation, and the responsibility of the second part lies with the management of the Line Organisation.

Because implementation is spread across two processes within the IND, it does not meet the first aspect determined from the literature. However, it does meet apsects two and three, where it has a process-based approach and is considered within the context of the organisations systems. At the moment, it cannot be said whether it also meets the fourth key aspects.

Interim takeaways

- Innovation within the IND amounts to everything that the IND is not currently doing/using
- Change within the IND goes through official initiatives that affect employee time
- Implementation within the IND is the responsibility of both the project manager and the line organisation
- Implementation within the IND meets two of the four aspects of implementation that are key from the literature

The various CHANGE initiatives within the IND

The previous chapter discussed that change within the IND requires setting up certain CHANGE initiatives. Within the IND, 5 different approaches are used to realise CHANGE, with each a different set-up procedure. The reason for this is that the goal and scope of the CHANGE initiative is not always the same, and therefore a choice has to be made about what the most suitable approach is to achieve the goal. These different approaches read as follows by order of large to small in scale:

1. **Programmes**
2. **Projects**
3. **Epics & features**
4. **Line initiatives**
5. **Experiments**

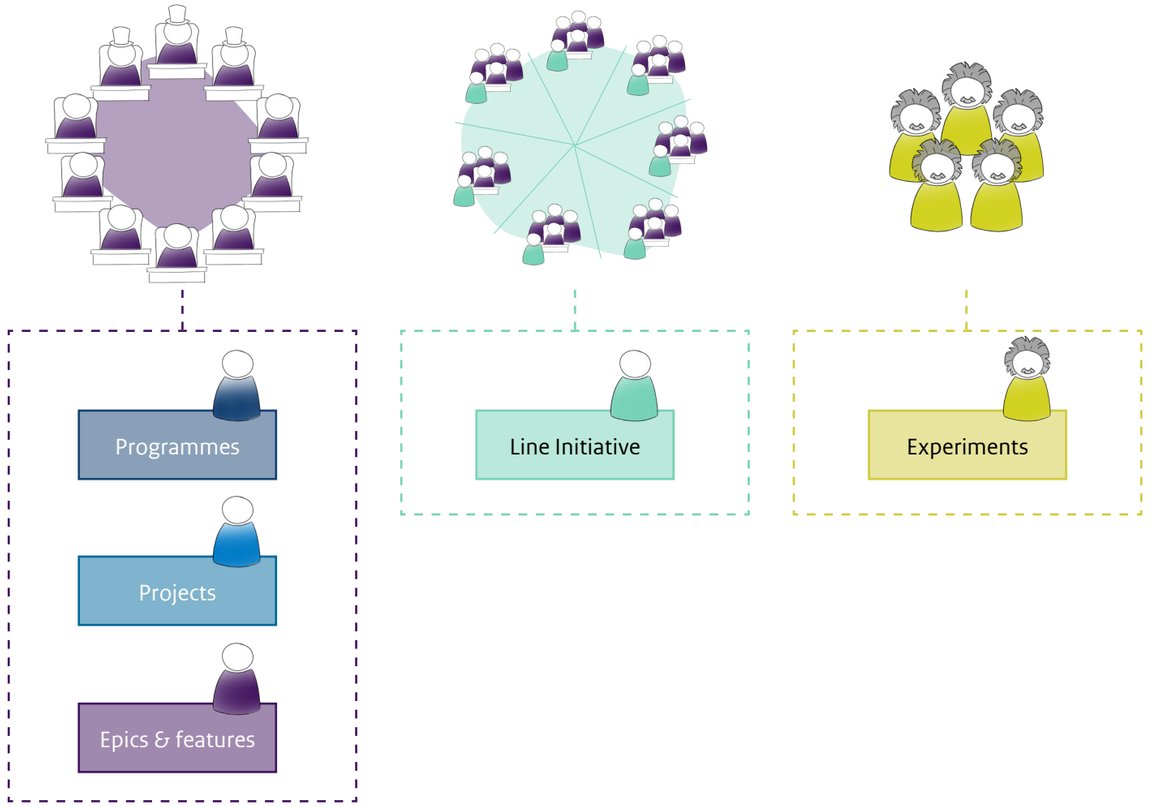


Figure 16. CHANGE initiatives ordered per responsible department

Of these, Programmes, Projects and Epic & features fall under the guidance of the Portfolio Board, Line initiatives under Line Management and Experiments under the Einsteinbrigade. An overview of all these processes is shown in Figure 15, which gets more clarification in the following subsections. Thereby, the following sub chapters answers sub research question 3;

3. **What are the current innovation and implementation processes and who is responsible for these processes?**

Programmes

To realise the larger long-term objectives, the IND uses so-called programmes. A programme is a temporary and flexible organisation with a certain objective. Its purpose is to coordinate, direct and monitor a set of related projects and activities, in order to realise goals and benefits that are of strategic importance to the organisation, according to the Managing Successful Programmes method (MSP). Programmes are directed and managed by the Programme Management explained earlier. Figure 17 shows an example of the content of a programme. As the content is tailored to the objectives for each programme, this example is not representative of all programmes within the IND (Rijkstportaal, 2023).

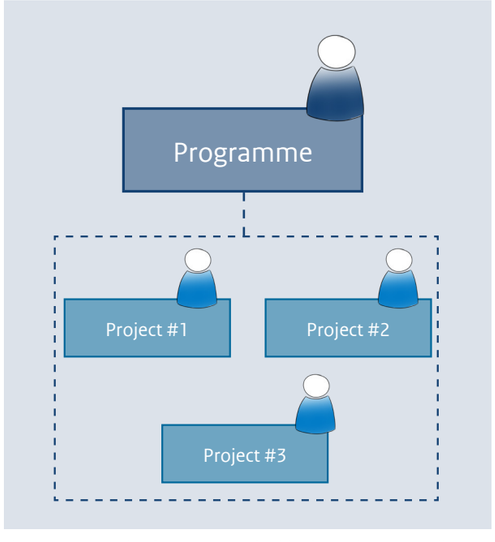
As mentioned before, programmes fall within the governance of the PFB and are completed and managed by the Programme Manager and the Client. From interviews with two Programme Managers it emerged that a top-down approach determines which programmes are set-up and which are not, as well as the content of the programme. In addition, it was even noted for one programme that it was very IV driven, even though it should be Business driven. Because programmes contribute to the IND's larger goals, they often last for several years and, in the process, often delay. Consequently, from the intview with the Portfolio Management it emerged the content can be changed during the course of a programme with the approval of the PFB, for example adding or removing a project. This makes programmes an option for the Einsteinbrigade to implement their results through.

"IV determines for the Business what is good for them, rather than the other way around"

"The programme I manage originates from the previous General Manager who wanted to do something with her idea"

"I am now the fifth manager of this programme because nobody succeeds"

"The roadmap of my programme was created by the MT IND"



"Once a programme is set-up, it can be determined as we go along whether new projects are needed or whether current ones should be removed to achieve the objectives"

Figure 17. Example of a Programme's objective and corresponding content

Projects

Besides programmes, the IND also uses projects. A Project is a temporary and flexible organisation, like a Programme, set up to deliver one or more results according to an agreed Business Case. Because the results to be achieved are clearly agreed in advance, projects use the Prince2 management method (Prince2, n.d.). This form of management works well for processes where the goal is fixed and clear in advance. Projects always deliver products, but these are not always tangible objects. They can also be paper products such as a validation, an impact analysis, process design, project plan, etc. This means it depends on the project's business case what the outcome and approach will be. Just like Programmes, Projects also have their own Client, Manager and Steering Committee, who hold the same roles and responsibilities as in programmes (Rijkstportaal, 2023).

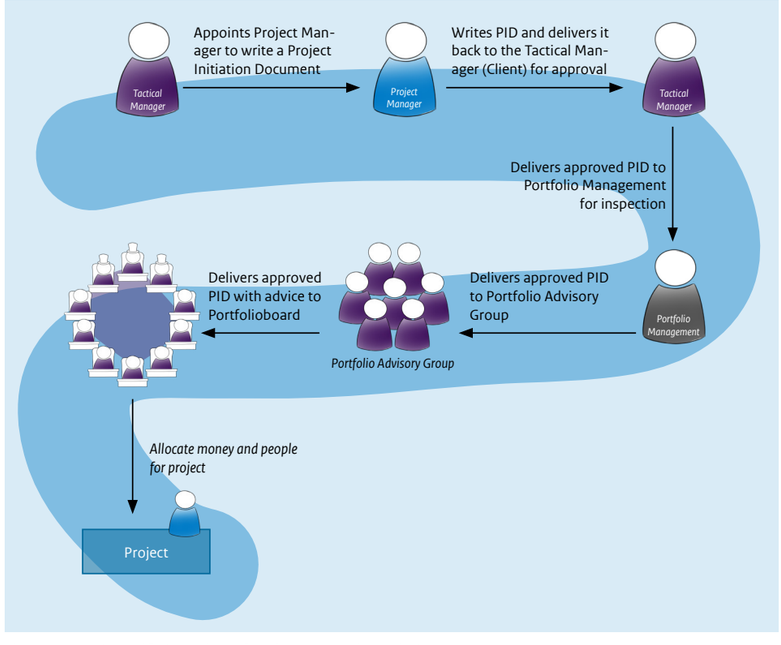
The set-up of Projects is also done through the PFB, an overview of which can be seen in Figure 17. Through interviews with 3 Project Managers, 1 Programma Manager and the Portfolio Management, it emerged that the origin of a project most often originates from the motivation of an idea deemed valuable by a Tactical Manager, where not enough time is put into a concrete analysis of the problem. Thereby, setting-up a Project is relatively easy, as long as there is a valid business case. Because they most often later encounter problems during development, as a result all projects delay because, leaving no room for new ones, such as the results of the Einsteinbrigade.

"It is impossible to understand exactly what someone was thinking when creating a PID"

"We need to delay more on the front in order to accelerate later on"

"We don't put enough time into the start-up phase, properly working out the business case, sharply defining your problem"

"The project proposals I receive are not all clear-cut"



"When we delivered the results, the response we got was that they didn't have time for it"

"We are very good at starting initiatives but very bad at stopping them"

Figure 18. IND specific Overview of Project set-up through PFB

Epics & features

All ICT-related changes are qualified as Epics & features. Epics are significant ICT developments that require approval at PFB level based on a Business Case, e.g. linking customer data to case data, so that all the necessary information can be easily found when either is retrieved. A feature is a smaller ICT functionality that meets an important need of one (or more) stakeholders and creates value, e.g. smaller adjustments such as displaying titles correctly and better. Both deliverables are realised in multiple increments or releases according to an Agile working method. Epics, like programmes and projects, have an Owner and a Client within the PFB, but features do not.

All ICT-related changes are handled at the so-called PI event, which is a periodic meeting between a Tactical Manager of each Line Organisation and the Line Management IV, in which each Tactical Manager pitches their propositions regarding ICT changes to Line Management IV.

The purpose of this is to discuss what is feasible, not feasible and what the priority of the changes is. All requests in the PI event that have been decided not to be an immediate priority will be put on a backlog.

Almost all interviews revealed that practically all initiatives in the IND are ICT-related, leaving the developers with a crowded backlog. Since it has been agreed that all these changes go through the PI event, prioritisation is made there based on what is considered important there by the Tactical Managers. As a result, the delay of ongoing initiatives depends heavily on this event, but it also determines whether there is room for the launch of new initiatives.

"As there was no room for my project this quarter, my project is now on hold for 3 months"

"My project is not a PFB project, but I have to work through the PI event"

"As our core business relies entirely on ICT, the solution is often sought there"

"My programme is prioritised within the PI event, leaving less space for other initiatives"

"The PI event is outcome-driven, which means there is no place for innovation soon"

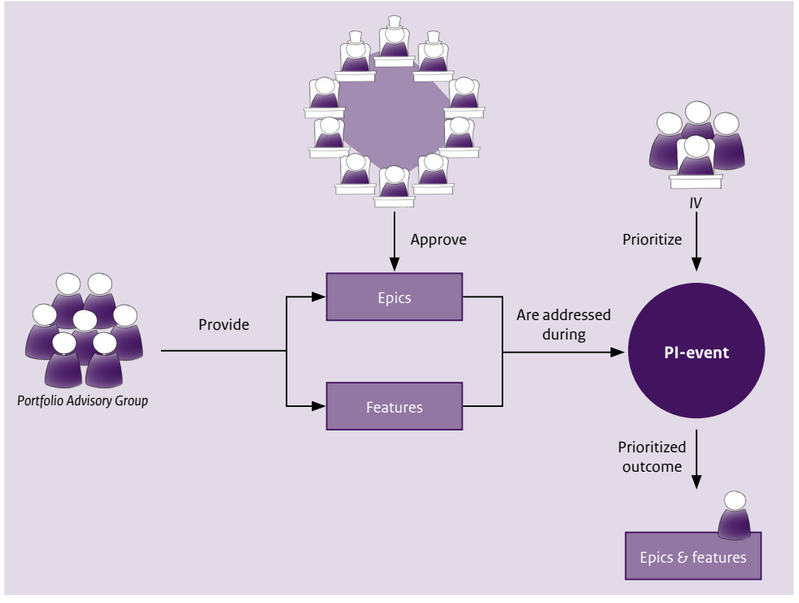


Figure 19. Overview of PI-event

Line initiatives

Besides the initiatives governed by the PFB, all Line Managements also have the authority to launch their own initiatives to improve their way of working, which is desired from the various Line Managements and supported by MT IND. This authority is within the IND referred to as mandate. Briefly, this term implies that a person is authorised to make choices on behalf of another person/administrative body. All these smaller initiatives are unofficially labelled as Line Initiatives. Line Management funds these initiatives with their out-of-pocket budget, so they do not have to seek approval for it. Out-of-pocket budget here refers to the money budgeted for their Line Management to do regular work and improve it. Finally, besides the difference that these Line Initiatives are not within the PFB, they do share the similarity with programmes and projects that each Line Initiative has a dedicated team with a corresponding client and is set-up through a Business Case.

While similar to a Project, it has been observed that otherwise there are no clear criteria or agreements when something becomes a Project or Line Initiative. However, starting these Line Initiatives has been proven to be easier than starting a Project through the PFB, hence it is preferred by Line Managements. When an idea is deemed as valuable, setting-up a Business Case is easily done, and because of the mandate arrangement, this is not further checked. Although no clear figures are known, it has been estimated that, on aggregate, there are hundreds of such initiatives running spread across Line Organisations, leaving Tactical Managers very busy and with very little time to spare.

"We have a lot of solutions ready that we are looking for a problem for"

"From one Line, we know they have around 80 running. With a bit of maths, you soon end up with a few hundred for the whole organisation"

"Everyone is optimising locally, which takes a lot of time and causes a lot of problems"

"Making a Business Case is not a threshold, just a matter of time"

"On the one hand it is claimed that there is no space and time, while the numbers say the opposite"

"We think too much in solutions"

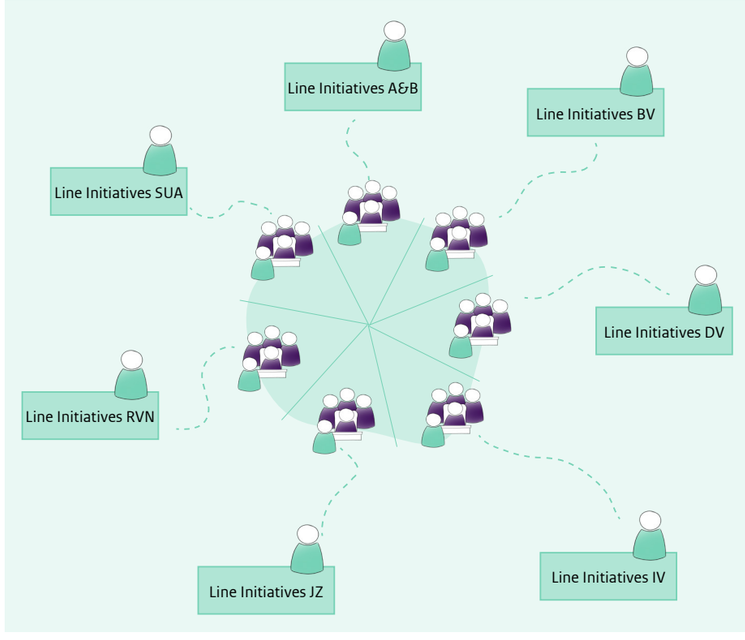


Figure 20. A representation of each Line Organisation having their own Line Initiatives

Experiments

The latest form of CHANGE initiatives are the Einsteinbrigades experiments. As mentioned earlier in the introduction, experimentation is interpreted as validating ideas from the IND's Business to determine whether it adds value to the organisation, which makes it the only true bottom-up initiative. These ideas are collected in both actively and passively, after which a criteria list is used to determine whether to turn them into an experiment. The process is divided into three main phases; the exploration and ideation phase, the experiment phase, and the delivery phase, of which a schematic overview can be seen in Figure 20.

During the first phase, the Einsteinbrigade together with the idea submitter gathers all the necessary information to conclude if an experiment is needed or not. This person then becomes the experiment leader during the experiment phase. In addition to an experiment leader, (most often) a Tactical Manager of the Line Organisation within which the experiment is conducted is appointed as the Client. The Line Director IV is also informed about each experiment because, as mentioned earlier, the Einsteinbrigade is placed under Line Organisation IV. With that, the final results are thus delivered to both the Client and the Line Director IV. Because the Einsteinbrigade only validates, the results always need further elaboration to make them usable within the Line Organisation in question.

What Figure 20 also makes clear is that the Einsteinbrigade has no mandate to implement their own results, which was agreed when the department was set-up. However, it was found that, firstly, there were no clear agreements on which ideas are all handled by the Einsteinbrigade, and secondly, no one is obliged to follow up on the results. This makes implementation of the results highly dependent on the Client whether they want to put resources into it.

Finally, Figure 20 also shows the contact moments between the Einsteinbrigade and the Client. Appointing a Client in this process is often done informally and is often the same Tactical Manager, approval of the experiment plan is done via an official platform DigiJust, and deliery of the results is done via email. As the Client cannot be involved in the experiment due to lack of time, the attached value of the experiment is based on the received results document, which fails to convey value.

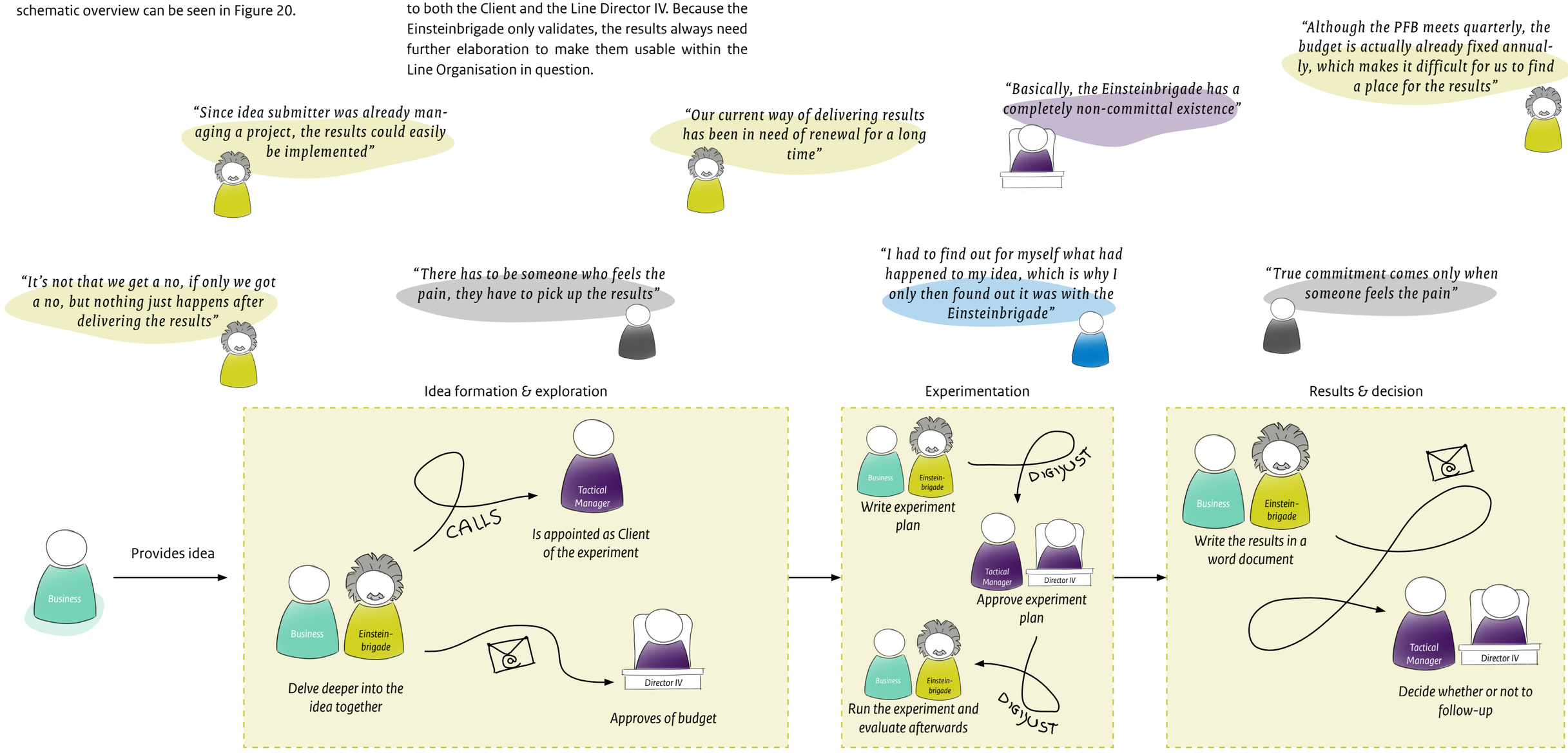


Figure 21. Overview of Einsteinbrigades process and corresponding mandate, including stakeholders

Conclusion from CHANGE initiatives analysis

The previous two chapters have mapped the various stakeholders and change initiatives within the IND, hereby answering the following sub-research question:

3. **What are the current innovation and implementation processes and who is responsible for these processes?**

Within the IND, opinion on innovation is divided, but for this project it was chosen to define it as everything that the IND is not currently doing/using.

To innovate, the IND makes use of 5 different CHANGE initiatives; Programmes, Projects, Epic & features, Line initiatives and Experiments. To have central governance over resources for these CHANGE initiatives, the IND uses a Portfolio Board. They directly determine which Programmes, Projects and Epics are approved, how much budget the Line Organisations have to implement Line Initiatives, as well as for the Einsteinbrigade how much budget they have.

Programmes and Projects are temporary and flexible organisations governed by a dedicated Programme or Project Manager and all have their own Client. This can be a Line Director or a Tactical Manager, but is more often the latter of the two. Programmes are used to achieve larger objectives, and Projects to deliver concrete products.

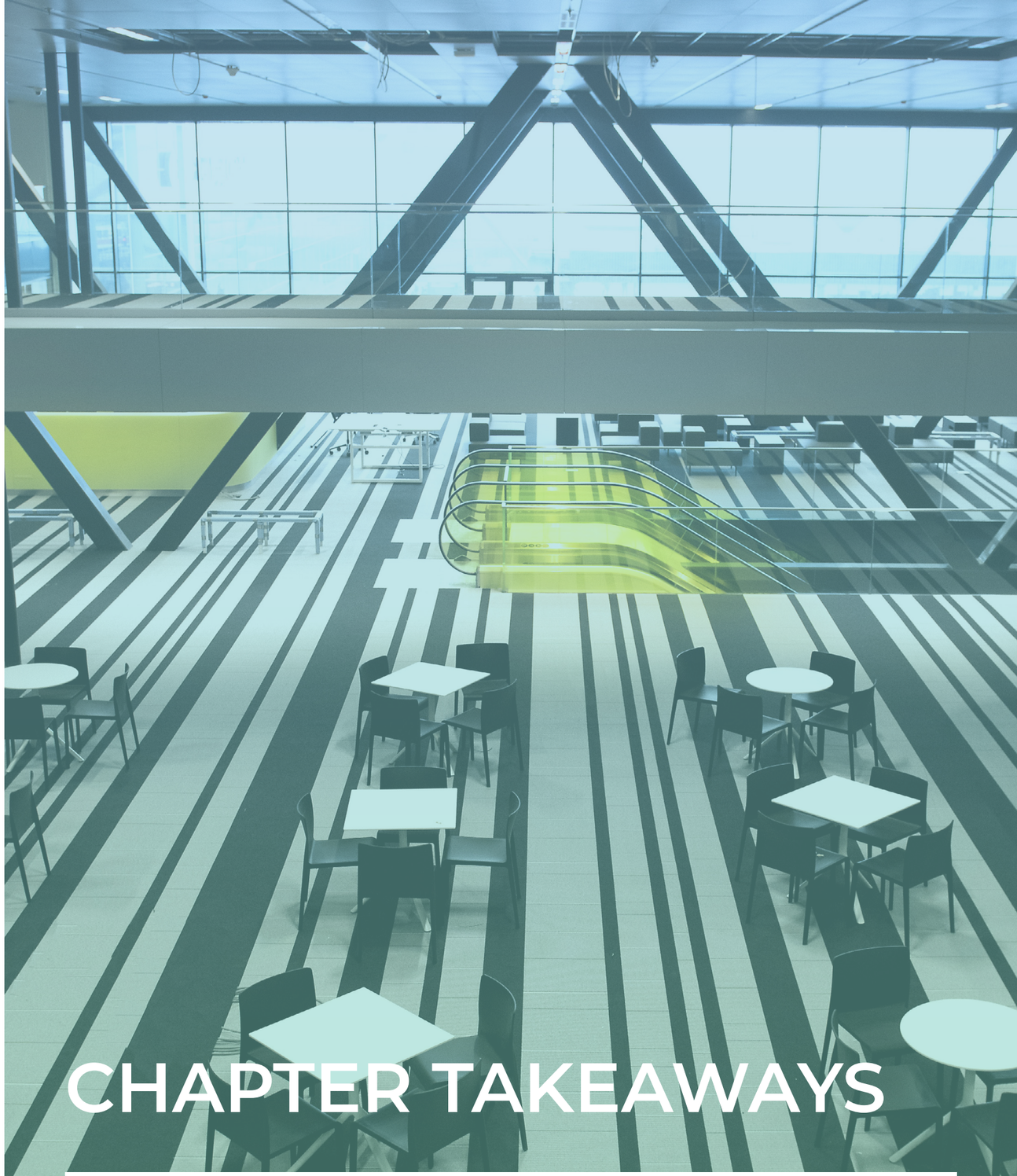
All ICT-related changes are qualified as Epics & features. Epics are larger developments and are driven and prioritised by the PFB. Features are smaller developments and are steered and prioritised within a PI event. This is a quarterly meeting between all Line Organisations at which the prioritisation is determined for the coming period, so that there is also an own backlog for this.

Line Organisations have the authority to make their own internal changes using Line Initiatives. These are internal initiatives outside the PFB with different purposes and are similar in set-up to Programmes and Projects.

Finally, the Einsteinbrigade conducts experiments, meaning they validate ideas from the IND's Business for added value. For each experiment, a Tactical Manager joins as Client, to whom, finally, the results are delivered.

For implementation, the Einsteinbrigade depends on the Client choosing whether or not to elaborate on the results. This can be, in the form of a new Project or Line Initiative, as a feature within the PI event, or hooking into an existing Programme or Project.

The responsibility for the final step of implementation lies with the Line Organisation, which must incorporate the innovation into the current work process in order to use it as part of its work.



CHAPTER TAKEAWAYS

- Innovation within the IND amounts to everything that the IND is not currently doing/using, but this mainly manifests itself in top-down innovation
- Change within the IND goes through official initiatives that affect employee time, being Programmes, Projects ,Epics & features, Line Initiatives and Experiments
- Implementation within the IND is the responsibility of both the project manager and the line organisation, making the Einsteinbrigade dependent on those responsible for this.

Identified challenges that hinder implementation

During the analysis of the various CHANGE initiatives within the IND, a number of challenges also emerged which were introduced in the previous chapter. This chapter will provide an overview of the introduced challenges based on the earlier identified requirements for bottom-up innovation. The implications per requi-for bottom-up innovation will then be discussed in the subsequent sub chapters, thereby answering sub-research question 4;

4. **What are IND's challenges hindering implementation?**

Clustered challenge landscape

Figure 21 summarises the challenges identified during this project that were found to affect implementation. It was chosen to cluster these by bottom-up innovation requirement, so that in the remainder of the project it is easier to choose a focus to design a solution within. The following subsections provide more clarification on the implications the challenges have for implementing bottom-up innovation.

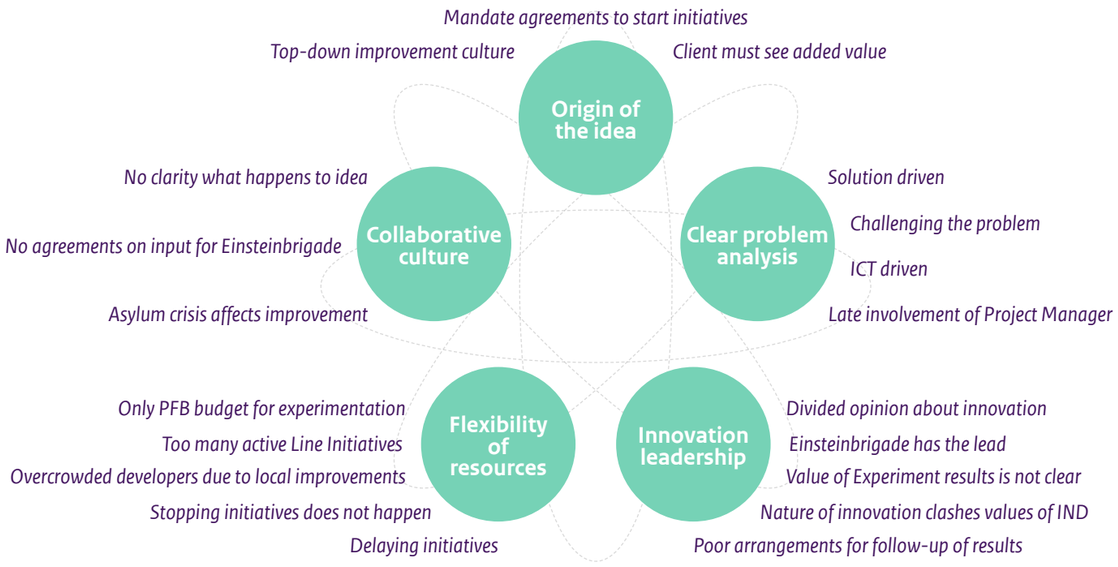


Figure 22. Overview of challenges influencing bottom-up innovation requirements

Origin of the idea

Analysis of the different CHANGE initiatives revealed that there is a strong top-down culture within the IND, which extends beyond its walls (Van Hoesel And Ron Engelenburg, 2019). A good example of this is the ever-changing migration policy. First, when policy change occurs, it is given absolute priority within the IND. Secondly, the new policy may not be executable due to practical or legal reasons, after which it is still chosen to be implemented (NRC, 2023).

A major cause for this top-down culture is the mandate arrangement within the IND that says only Line Management and the MT IND are authorised to start an initiative from an idea. When an employee has an idea, they must first demonstrate its value to their immediate manager. Once the latter is convinced, the Tactical Manager also needs to be convinced. If they deem the idea valuable for the IND, they decide whether or not to set-up an initiative.

This also applies to the Einsteinbrigade. Since, as concluded earlier, the Einsteinbrigade has no mandate to start an initiative itself after completing an experiment, they are therefore dependent on Line Management whether their results are followed up.

Nareisbeperking Het opschorten van de mogelijkheid tot gezinshereniging voor statushouders was een politieke keuze zonder wettelijke grond. Uitvoeringsorganisaties moeten dan op de rem kunnen trappen, schrijft *Thomas Huttinga*.

Figure 23. Example of top-down political decision

A collaborative culture

The analysis showed that a collaborative culture is only partly present with the Einsteinbrigade having to take the lead for this themselves. Although the Einsteinbrigade uses an online idea box on the collaboration platform (Rijksportaal, 2023), most of the ideas come from their annual event the Einstein Experience.

This is firstly because there are no clear agreements within the IND as to which ideas should be sent to the Einsteinbrigade, which creates ambiguity. Employees have to know about the existence of the Einsteinbrigade to make use of it.

A lack of feedback was also noted, which means that an idea submitter does not know what happened to the idea. However, this only happens if the idea did not go directly from the idea submitter to the Einsteinbrigade

Third, due to the almost always ongoing asylum crisis, there is also little time for collaboration and exchange of ideas. Because as stated earlier CHANGE and RUN are a division of an employees time, it can only be successful if there is time available .

It is most important to make clear agreements about which ideas will be experimented with by the Einsteinbrigade by proclaiming this organisation-wide, but also that there is room for improvement in times of crisis.

Flexibility of resources

Within the IND, there has been evidence of mixed handling of limited resources. On the one hand, it is handled very strictly, which is indicated by the Portfolio Board using tight budgeting, the quarterly PI event setting deciding where time is spent on, but also that literally every cost form incurred has to be declared.

However, on the other hand, it is again handled very freely. The Einsteinbrigade, for instance, has never taken no for an answer to their experiment budget, and there are hundreds of Line Initiatives running all over the IND that no matter how long they last but are not stopped.

The paradox lies in the fact that the flexible handling of resources makes for less flexibility for the Einsteinbrigade. Because of the resource flexibility, there are many active initiatives all competing with each other. Therefore, many initiatives delay, leaving no room for new initiatives. In the case of the Einsteinbrigade, it is easier to say that there are no resources for them.

Due to the absence of clear criteria when an initiative should be set-up or not, the Einsteinbrigade needs to compete with all the other initiatives to win a spot.

Innovation leadership

Because the nature of innovation is unpredictable, it clashes with IND's values of predictability and clarity (IND, 2023), reflected in the processes used, among others. Support in the form of leadership is therefore needed to generate support for innovation in the organisation.

It was noted earlier that opinion on innovation is divided within the IND, which can be seen, among other things, in the different definitions of innovation. This also has implications for innovation leadership.

Currently, the only real leaders of bottom-up innovation are the Innovation Managers of the Einsteinbrigade. They try to put innovation within the IND more map through a community and the Einstein Experience.

The lack of leadership manifests itself in the fact that the Einsteinbrigade itself has to put a lot of effort into getting their results implemented. If innovation was to be supported, clear agreements would have been made on this.

Because of the lack of agreements, implementation depends on convincing the Client to dedicate resources by demonstrating the added value of the results for that person.

Clear problem analysis

For true innovation, as concluded earlier, it is required that a clear problem analysis takes place. This crucial step is overlooked most of the time within the IND, which in part causes that a large part of the CHANGE initiatives delay. Solutions are developed and implemented for which it is not clear what the problem is that it solves. The Einsteinbrigade also puts little time into this, which can be seen by the fact that they do not challenge the ideas collected, but instead run an experiment on them.

Analysis of a Business Case template revealed that while a clear problem definition is formally required before setting up a CHANGE initiative (Rijksportaal, 2023), however interviews revealed that little or no time is spent on this and the future Project Manager is not involved as well.

This creates a strong solution-driven culture within the IND. This manifests itself, among other things, in the local improvement of processes for short-term solutions rather than addressing the broader context or long-term challenges. These local improvements, in turn, create bottlenecks somewhere else in the organisation, which then need to be resolved again.

Thirdly, it was found that solutions within the IND are mainly sought in the ICT side. On the one hand, this is not surprising, given that the processing of applications is all done digitally. However, this ensures that there is a lot of pressure on IND developers. For innovation, it is important to look beyond the familiar paths. Through creative problem solving, the IND may be able to achieve much more than it is currently able to.

It is therefore important for the IND to move away from this solution driven-mindset and substitute a problem analysis in their CHANGE initiatives. This not only ensures that precious resources go to unhelpful initiatives, but also that solutions other than the current IV focus can be inspected.

Conclusion from challenge identification

The previous chapter highlighted the identified challenges based on the requirements for bottom-up innovation, hereby answering the following sub-research question:

4. What are IND's challenges hindering implementation?

The number of ideas coming in to the Einsteinbrigade is scarce because there are no organisation-wide agreements on what input is meant for the Einsteinbrigade.

Although the ideas for bottom-up innovation originate from the right place, the top-down culture makes it difficult to get the results further.

Within this top-down culture, initiatives are set-up mainly from a solution-driven perspective. Here, a clear problem analysis is missing, resulting in many initiatives being active and many initiatives delaying.

These initiatives all compete with each other for resources, and so the Einsteinbrigade also has to compete with the rest of the CHANGE initiatives within organisation.

Because innovation is not carried in the organisation, there are also no clear agreements for the Einsteinbrigade's results. As a result, the Einsteinbrigade itself has to convince Clients to allocate resources for implementation.

SECTION TAKEAWAYS

For successful bottom-up innovation, the following requirements need to be met

- The origin of ideas come from the lower levels of the organisation;
- A clear problem analysis as a starting point;
- A collaborative culture and infrastructure to facilitate knowledge exchange;
- Flexibility with resources for e.g. feasibility demonstration;
- Supportive leadership that encourages collaboration and champions innovation.

Key aspects of Implementation are

- Is part of the innovation process; is an innovation, improvement or change;
- Has a plan and/or a process-oriented goal-oriented approach;
- Should be considered in the context of organisational systems and processes;
- Takes place from a sustainable, continuous improving perspective throughout the process.

9 Principles that increase the likelihood of implementation were identified

- 5 characteristics of the innovation (the expected benefit, compatibility, ability to try out, complexity, and ability to observe).
- 3 ways to reshape mental models (sensing surprise, perceiving multiples, and embodying alternatives)
- Conducting a persuasive presentation based the principles of verbal mastery

Within the IND

- Innovation within the IND amounts to everything that the IND is not currently doing/using, but this mainly manifests itself in top-down innovation
- Change within the IND goes through official initiatives that affect employee time, being Programmes, Projects ,Epics & features, Line Initiatives and Experiments
- Implementation within the IND is the responsibility of both the project manager and the line organisation, making the Einsteinbrigade dependent on those responsible for this.

Challenges for implementation amount to

- A lack of commitment to follow up on Einsteinbrigade experiments due to divided opinion on innovation
- A dominant top-down change culture with a solution-driven mindset in which it is easy to set-up initiatives
- Need for the Einsteinbrigade to compete with the other initiatives to win a spot for implementation

Reframe the problem

From the analysis of the literature, the IND and its processes, a large number of insights and associated challenges have come to light, from which opportunity fields can be synthesised for the continuation of this project. For this purpose, first the research questions with their corresponding answers will be discussed. Afterwards, through reframing of the problem is, the main bottlenecks are highlighted. From these bottlenecks, design directions will then be formulated, one of which will be chosen in conclusion.

Recap of the research questions

What is understood and what is needed for bottom-up innovation and implementation?

Understanding bottom-up innovation and implementation

Innovation is the implementation of a significant change in the way your organisation operates or in the products it provides. Bottom-up innovation, in contrast to top-down innovation, originates from individuals within the organisation, such as operational employees or middle managers, promoting a diverse and inclusive approach to generating innovative ideas. Implementation is the process-based and planned introduction of an innovation, change, or intervention into an organisation or sector, aiming to incorporate it into daily operations and achieve sustainable outcomes. It involves working arrangements, activities, and measures that facilitate the integration and improvement of the intended change.

Requirements for bottom-up innovation

6 Requirements were identified to successfully execute bottom-up innovation. Firstly, ideas originate from the lower levels of an organisation. Second, a collaborative culture and infrastructure is needed to share knowledge, information and ideas. Third, the ability to be flexible with resources to demonstrate the feasibility of the innovation. Fourth, there must be some form of leadership, both formal and informal, that supports bottom-up innovation. Fifth, a clear problem analysis with accompanied framing of the problem needs to be present. And last, the innovation has to be implemented in the current way of working for it to be used.

What factors increase the likelihood of implementation?

5 characteristics of the innovation

The literature review showed that 5 characteristics of the innovation itself influence the likelihood of implementation. The expected benefit of the innovation refers to the measurable impact it has. The compatibility focuses more on the personality of the professional, with the innovation having to match values, beliefs, history and needs. The ability to try out explains that people are more likely to make an innovation their own when they can practise on a small scale first. The complexity means that the innovation should not be too difficult to use. The ability to observe means that the use and results of the innovation should be clearly visible for the new user.

3 methods to influence mental models

Reshaping mental models is the practice of changing the user's assumptions and beliefs that guide their behaviour and interpretation of their environment. To reshape mental models for innovation, three principles were proposed: sensing surprise, perceiving multiples, and embodying alternatives. Sensing surprise exposes existing mental models through unexpected events, perceiving multiples makes mental models explicit through interaction among stakeholders, and embodying alternatives involves physically testing different ways of working based on mental models.

Power of a persuasive presentation

Persuasive presentations are essential for convincing others during formal moments like meetings or presentations. Techniques such as "grabbing" to start a story, pre-frames to bridge to the future, and highlighting benefits with adjectives enhance communication and influence. Face-to-face presentations are recommended for enhanced persuasion and equal ground between the Einsteinbrigade and the person to be persuaded.

What are the current innovation and implementation processes and who is responsible for these processes?

5 types of CHANGE initiatives

Innovation within the IND is seen as anything the IND does not already do or use. To bring innovation to the organisation, so-called CHANGE initiatives are used. Here, 5 different initiative forms and associated processes were identified; Programmes, Projects, Epics & features, Line Initiatives and Experimentation.

Implementation is split

Implementation within the IND is split into 2 parts. The first is implementing the innovation within the existing environment or way of working. This is mainly done through the aforementioned Projects. When this is completed, the second phase of merging the use of the innovation into the daily way of working is performed, whose responsibility is assigned to the Line Organisation.

Roles and responsibilities

The PFB manages the organisation's total resources. They also govern ongoing programmes, projects and epics & features and approve new ones. The content of these 3 initiatives is managed by Programme and Project managers who report to the PFB. Line Management has full responsibility over Line Initiatives, and the Einsteinbrigade is responsible for bottom-up innovation Experiments.

What are IND's challenges hindering implementation?

Strong top-down culture

There is a strong top-down culture within the IND, which is partly caused by the fact that only Line Management is allowed to set-up CHANGE initiatives. This makes it difficult to implement bottom-up results.

Limited collaborative culture

No clear arrangements were made which ideas should be directed to the Einsteinbrigade, and time for CHANGE is scarce due to the asylum crisis.

Flexible resource paradox

Because of the resource flexibility, there are many active initiatives all competing with each other. Therefore, many initiatives delay, leaving only room for initiatives deemed valuable.

Mixed perspectives on innovation

A divided opinion on innovation within the organisation and the lack of reliance on bottom-up innovation hinder its widespread adoption and support. This shows in a lack of agreements, resulting in implementation depending on convincing the Client to dedicate resources by demonstrating the added value of the results for that person.

Lack of problem analysis

Although documented, it appears that little to no time is spent within the IND on concrete problem analysis. This created a solution driven culture that is also heavily focussed on ICT solutions, leading to many active initiatives and many initiatives delaying.

Identifying the main bottlenecks

Although the aforementioned challenges have been clustered per requirement, it is recognised that each of them is strongly interconnected, which fits the characteristics of a complex problem. By combining the insights from the answers of the research questions, it is possible to see the problem from a different perspective. This revealed that the combination of the processes and the identified challenges results in a drastic capacity problem within the IND. This capacity problem makes it difficult to set-up new initiatives, which ensures that Einsteinbrigade results are not implemented. Based on this problem, the three main bottlenecks that have a share in the capacity problem have emerged from the previously identified challenges, and thus that the Einsteinbrigade results are not implemented, which are discussed in the following sub chapters.

Bottleneck 1

The first bottleneck is the lack of a clear problem analysis. The absence of this means many initiatives are running to solve the same problem, all of which end up encountering smaller problems in elaboration. This, and that the initiatives are all competing with each other, delays the initiatives, causing unnecessary capacity consumption. This ensures that there is little or no room for new initiatives, such as the results of the Einsteinbrigade.

Bottleneck 2

The second bottleneck is the unclear criteria and agreements tied to the set-up of a Line Initiative, as a result of which there are now estimated to be hundreds active across the organisation. In the absence of criteria and agreements, there will be many initiatives active whose value has been subjectively assessed. When the added value is assessed objectively, it is easier to determine what is prioritised and what is not.

Bottleneck 3

The last bottleneck is a result of several challenges. Due to the lack of leadership and agreements on the follow-up of the Einsteinbrigade's results, its clients have to be convinced to implement. Because of the capacity problem, new initiatives are only started when added value is seen in them by the manager, in which the Einsteinbrigade does not succeed through the current way of delivering results. This results in results remaining stalled, or the Einsteinbrigade simply being told that there are no resources for it.

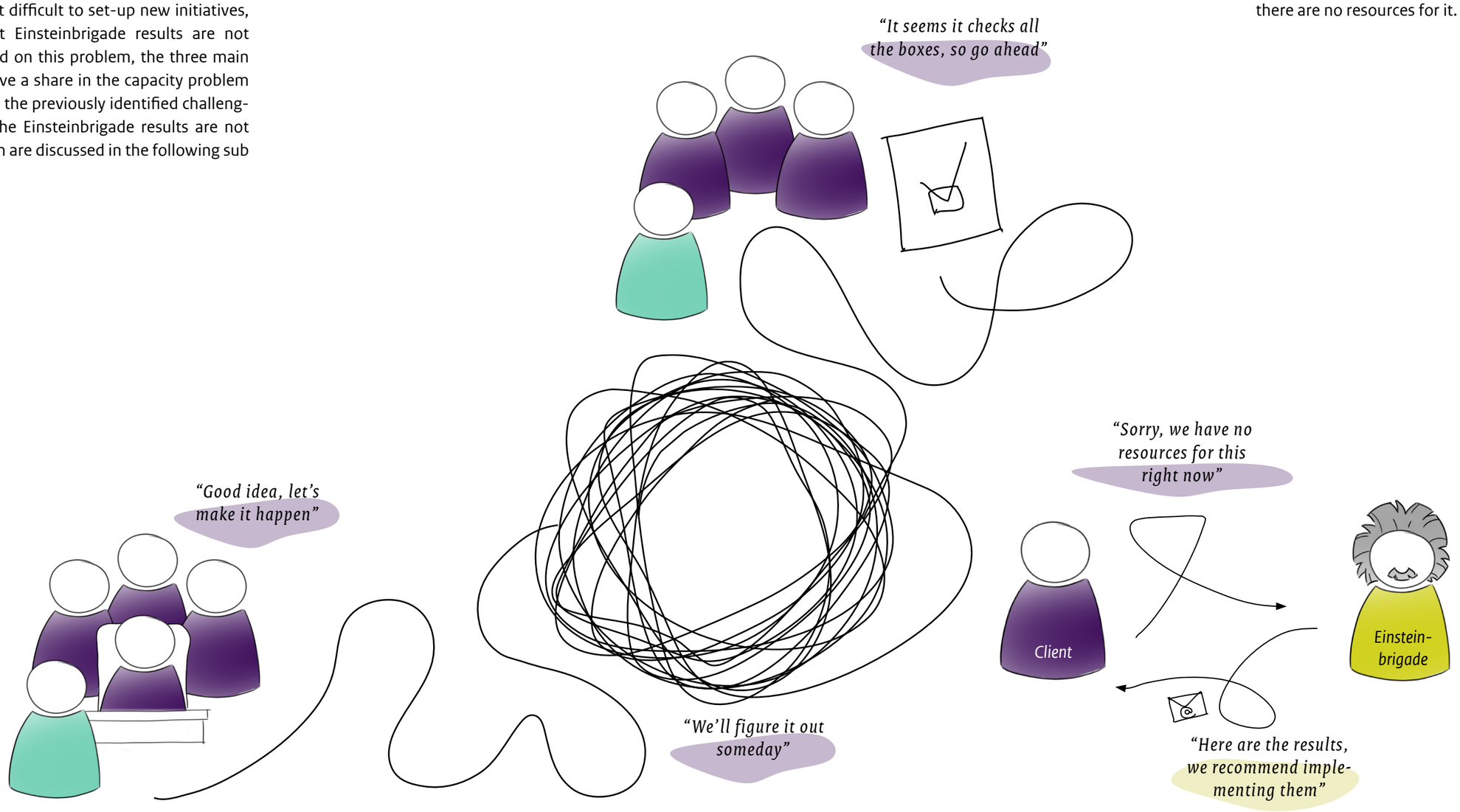


Figure 24. Visualisation of Bottlenecks

The opportunity areas

The previously discussed bottlenecks can be translated into opportunity areas. Although the areas themselves are not directly validated, the observations from which they originate are. These areas are formulated as Design Goals. The formulation is derived from Kees Dorst's Frame Innovation method and has the following structure:

"With my to be designed intervention, I want to achieve [outcome] by [how]."

Design Goal 1

"With my to be designed intervention, I want to achieve that the initiatives are set-up right by by incorporating a full problem analysis into the process of the Einsteinbrigade"

Design Goal 2

"With my to be designed intervention, I want to achieve that the right initiatives are set up by assessing the value of an idea in relation to demand of the Business."

Design Goal 3

"With my to be designed intervention, I want to achieve that Clients within the IND respond to the needs of the Business by making the Einsteinbrigade capable of effectively conveying the value of an experiment to the Client."

Chosen goal and rationale

The analysis found that all three of the formulated design goals are relevant and contribute to solving the issue facing the Einsteinbrigade. Unfortunately, however, it must be acknowledged that within the scope of the project, it is impossible to create an appropriate design for all design goals. Therefore, a choice had to be made to proceed with one of the three in the continuation of the project. To make this choice, the design goals were juxtaposed and then compared in collaboration with the stakeholders of this project. Attention was paid here to; what is achievable, what is not yet being worked on, and where does the role of a designer emerge best.

From this analysis, it was concluded to proceed with the third goal, because it received the most support from the Einsteinbrigade and the client, and it focuses on the current tension of transferring results. In addition, the first design goal is already highly focused within the IND, and the second design goal is not feasible within the scope of the project.

Design Requirements

From the literature review the analysis of the organisation, a set of design criteria emerged. From the literature review the analysis of the organisation, a set of design criteria emerged that accompany the chosen design goal. In addition that they make the conceptualisation of the design more structured, they also set boundaries for the solution space as well as criteria which the design can be evaluated with. The preliminary list of conditions can be seen in the table below.

NOTE: As it is assumed that more insights will be gained during the next phase, this list of conditions will not be set in stone.

#	The design should...	Derived from
1	Convince the client to implement the results	*IND analysis*
2	Convey the value of the results using one or more of the identified principles	*Literature*
3	Be adaptable and reusable for each experiment	*IND analysis*
4	Be adaptable for different Clients	*Literature*
5	Focus on a face-to-face moment with the Client	*Literature*
6	Not depend on the use of a power point presentation	*Literature*
7	Focus on the moment of results delivery	*IND analysis*
8	Be made in Dutch	*IND analysis*

Table 1. Preliminary list of requirements

Creating solutions

This chapter will provide the initial interpretation of the chosen design goal and its accompanied requirements. It begins by choosing a case study from the Einsteinbrigade to use for ideation. Based on this case study, individual and co-creation brainstorms sessions were held to create ways to apply the principles that facilitate implementation found in the literature study. The chosen principles were then tested, from which the insights were used to create a design that is usable for the Einsteinbrigade.

The Approach

The chosen design goal focuses on conveying value from one party to another, in this case from the Einsteinbrigade to the Clients of an experiment, with the aim that the Client adopts the innovation and decides to implement it. In order to examine how to best achieve this goal, it was decided to carry out two consecutive design phases.

In the first design phase, the focus will be on finding ways to convey the value of the experiment. Here, a case study was first chosen from the Einsteinbrigade of an experiment that has not been implemented. Then, of the principles found from the literature that have been proven to promote implementation, a selection was made which can be used to apply to the case study. Based on individual brainstorming sessions and sessions with other students, ways to apply the principles were designed, and afterwards tested to gain insights on strong and weak points.

In the second phase, the focus is on creating a tool to apply the principles. Based on the insights from the previous phase, the list of conditions was updated. On this basis, ideas are generated for a tool that can be used by the Einsteinbrigade. From this follows a concept which has been tested with the Einsteinbrigade itself, whose insights are used to create a final iteration leading to the final concept.

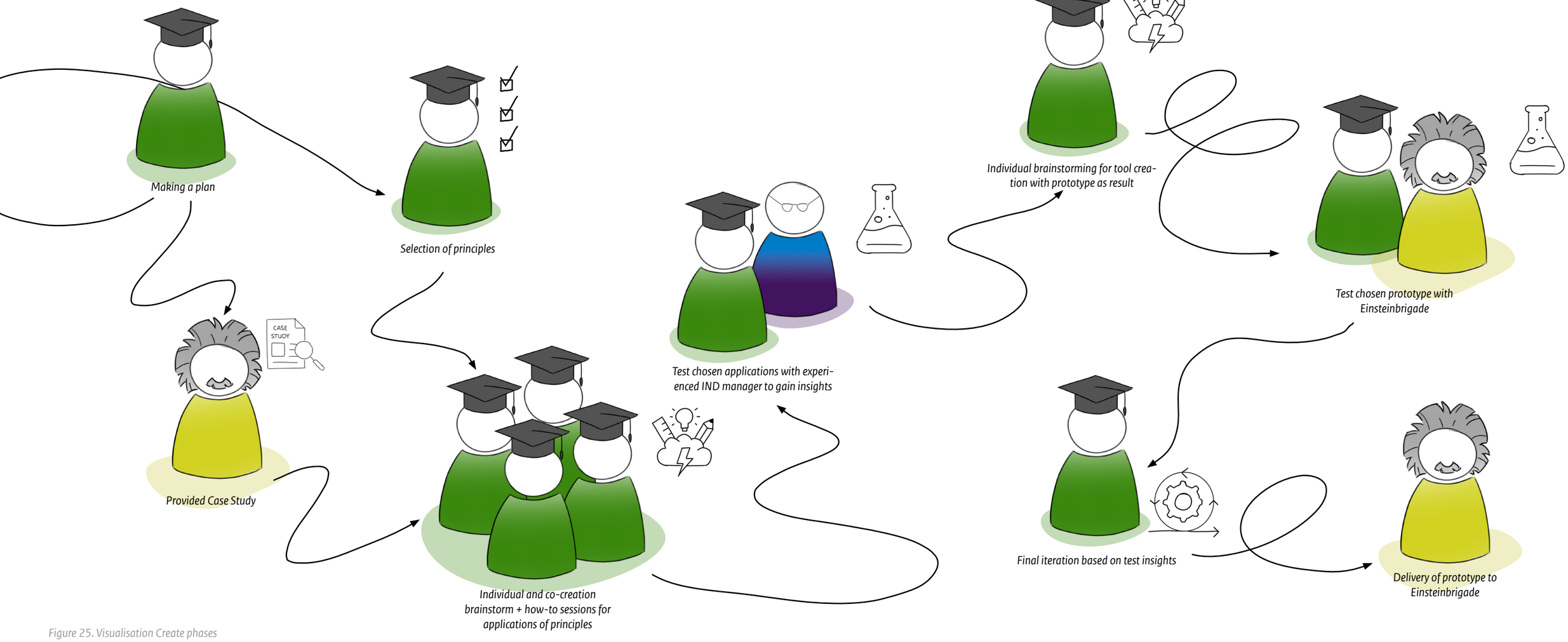


Figure 25. Visualisation Create phases

Creating ways to convey value

Case study of the Einsteinbrigade

To test the best way to convey the value of the results of an experiment, it was chosen to select a case study from the Einsteinbrigade of an experiment that has not been implemented. Using a case study has the advantage of being able to test with information within the IND, making it more tangible for the test participant.

An experiment was provided from the Einsteinbrigade about using podcasts to disseminate information internally instead of emails. An overview of the experiment can be see in Figure 26.

The podcast experiment

Incentive

During the pandemic, people worked from home as much as possible. In these times of less direct contact with colleagues, new ways of exchanging information were sought. During the second Lockdown, an employee came up with the idea of creating subject-specific podcasts for Legal Affairs. In this new way, colleagues could take in content while walking. Her idea was taken up and developed into an experiment.

Identified problems

The exploration phase of the Einsteinbrigade identified the following problems. First, for instance, sitting for long periods of time would be unhealthy, but the current way of working makes it difficult to alternate. Secondly, the absorption of information through reading usually decreases less during the day due to a lot of reading. And finally, employees have no motivation to make time to read professional emails between all other work and private life. Hypotheses were formed on this which were tested during the experiment.

Results

From the experiment came purely positive results. For instance, the podcast would invite listening and be combined with another activity such as walking the dog or folding clothes. In addition, listening was said to make the information stick better by having a relaxing effect. Finally, it could be concluded that it was a nice replacement for the coffee machine conversations, which were missed by employees to know more about colleagues.

Advice

The Einsteinbrigades advice was twofold. First, it advised the Line Management of Justice to take this up big within the Line Organisation. And secondly, the Communications Department was advised to use this format to deploy more widely across the IND.

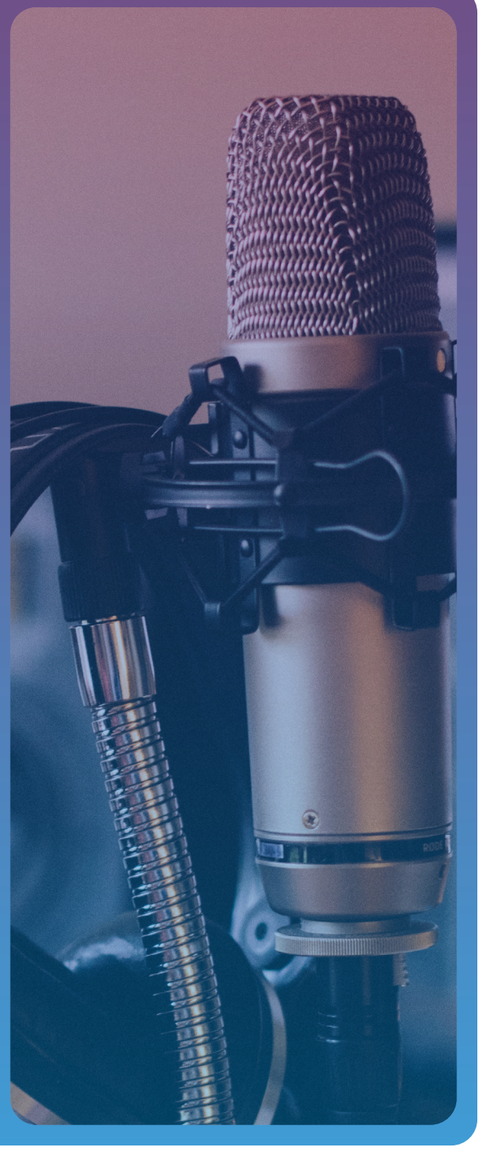


Figure 26. Podcast case study

Choice of principles

The previously performed literature review revealed 9 principles that have been proven to increase the likelihood of implementation. To choose which of the found principles to continue with, the principles were analysed and compared with each other. Among other things, this revealed that;

- *The ability to try out* has much overlap with *embodying alternatives*, but the latter provides more information to make the principle work as well as possible;
- *The complexity* can not be regarded as a standalone principle, but a prerequisite for all of them;
- *The ability to observe* especially works with the *late majority* and the *laggards*, categories that clients do not fall into.

Therefore, the choice was made to test the following principles:

1. *The expected benefit*
2. *The compatibility*
3. *Sensing surprise*
4. *Perceiving multiples*
5. *Embodying alternatives*
6. *Verbal Mastery*

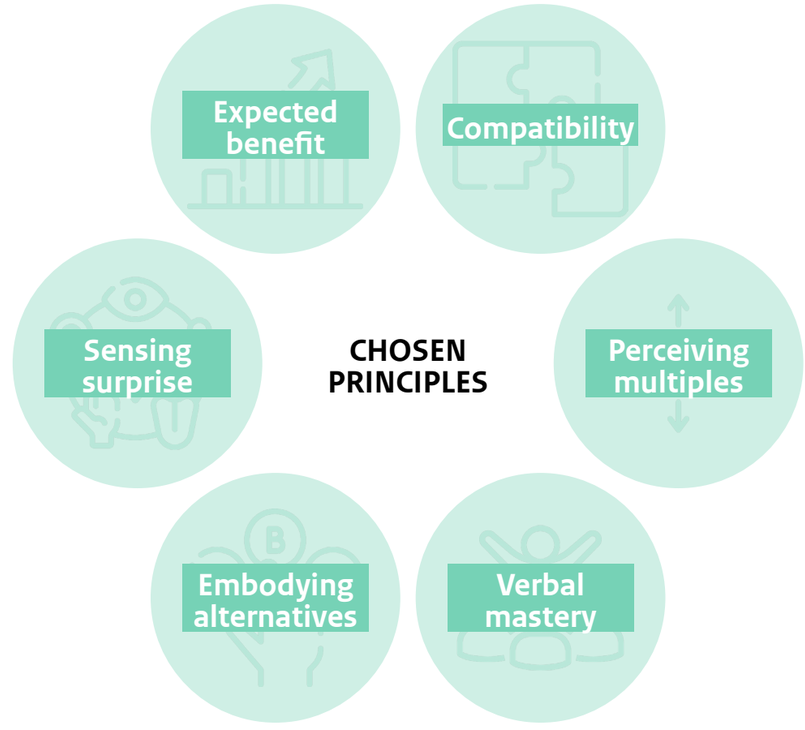
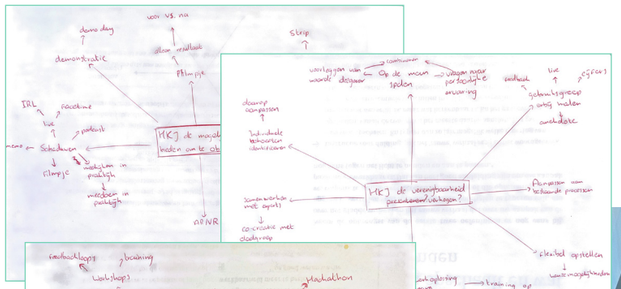
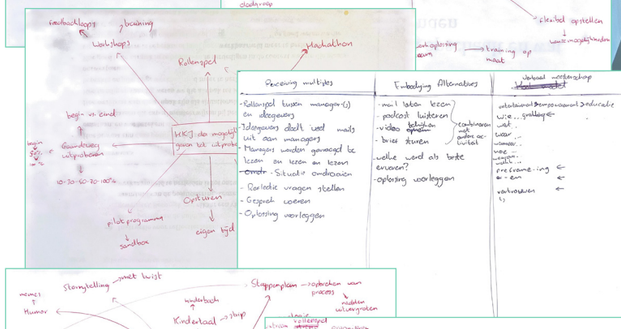


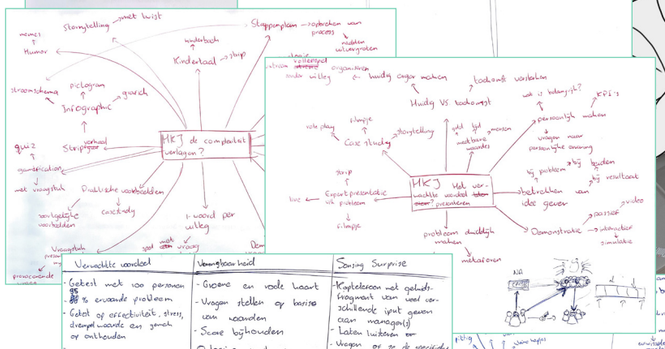
Figure 27. Overview of chosen principles

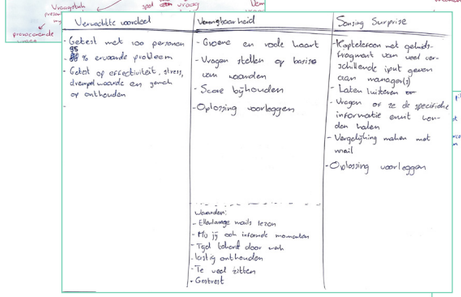
Ideation for applications of the chosen principles

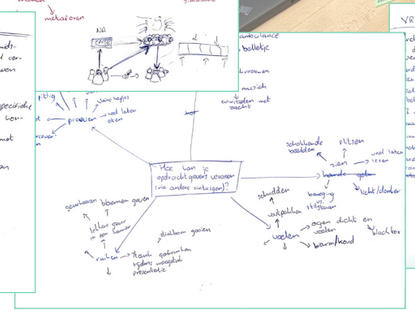
To find ways to apply the principles, it was decided to start with an individual brainstorming session accompanied with how-tos. This provided exploration of possible application directions, which could then be deployed during a second inspiration session with peers.Examples of ideas that came up included demonstration of the innovation, role-play where the role of employee is assumed, video of the innovation in use, AR experience of an applicant, demo day with multiple options.











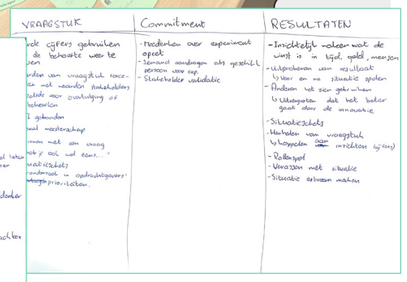


Figure 28. Brief overview of ideation

Main takeaways of ideation

The key insight was that most of the application ideas revolved around an interaction between the Einsteinbrigade and the Client in question, where the Client was asked to do something. Therefore, it was decided to design an interaction based on the 6 chosen principles, which are further explained in the next chapter. Other takeaways were:

- Making an overview of the insights of the experiment was key in order to apply the principles;
- The principles needed minimal explanation to be understood by fellow students;
- *Sensing surprise* and *Perceiving multiples* proved to be the most difficult principles to come up with ideas of applications.

Testing the principles

To test the principles based on the chosen case study, a session was set up. In this session, the different applications of the principles were tested individually to identify the points that work well and less well, and the reasoning behind the answers. This was done through a face-to-face session with an experienced IND manager. An overview of the session can be seen on the next page, and the full setup in the appendix.

The aim of the session

The purpose of the session is mainly to test the principles whether they actually increase the chances of implementation. It will also look at strengths and weaknesses of the different principles and the reasoning behind them.

Participants of the session

The session required two participants. For this, an experienced manager within the IND was asked to take on the role of the Client. In addition, the role of Einsteinbrigade was filled by the designer himself.

Set-up of the session

The session was held at the IND main building on the *Rijnstraat*, where a separate room had been reserved. The session lasted a total of one and a half hours including introduction, explanation and in-between reflections. Since the participating manager was already familiar with the project and the purpose of the session, the introduction could remain minimal. Subsequently, the 6 different interactions were tested, and then reflected on by the participating manager. Due to lack of time, a separate meeting was scheduled afterwards to obtain further in-depth responses.

Findings from the session

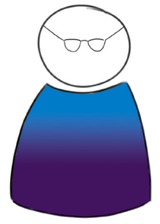
Each of the interactions was performed successfully. Between interactions, there was a brief reflection on the individual interaction, on which more depth was obtained in a separate appointment from which the following insights were gained:

- The added value of the interaction. This was not about a specific interaction, but about the interactions in general, which strengthens the argument to deploy it within the IND culture;
- The use of physical objects gave a fresh dimension to the sessions and also supported to get the message across;
- Using recognisable elements in the interaction strengthens the narrative;
- Ending with a personal appeal and a call to action stuck strongly afterwards.

Fifth, all interactions were ranked for effectiveness, which resulted in the following list:

1. *Embodying alternatives*
2. *Verbal Mastery*
3. *The expected benefit*
4. *The compatibility*
5. *Perceiving multiples*
6. *Sensing surprise*

"We are real meeting tigers here. Sessions like this take people out of the delusion of the day, making it memorable."



"The clumps of paper indicate mass. They work better than numbers because it speaks through the imagination, which makes it tangible"

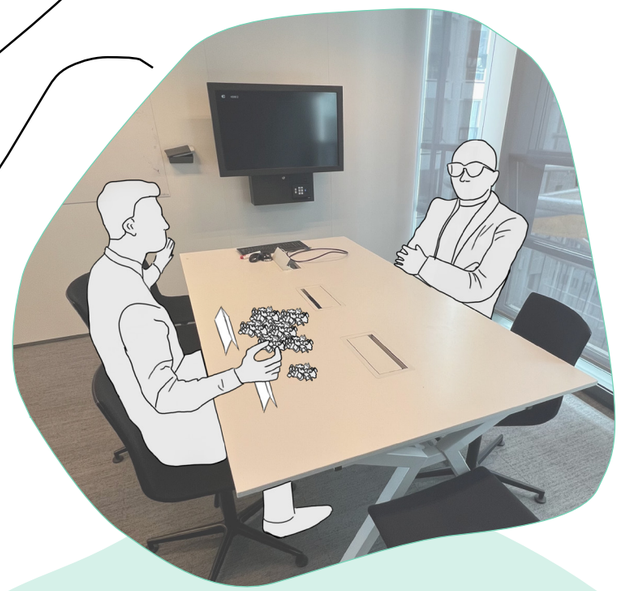
"I was addressed personally which brought a kind of responsibility as if I was grabbed by the shoulders"

Sensing surprise

The client was asked to read a page of text without moving once. Every time the client moved, they had to start again with reading. The aim was to make them feel what it is like to be “trapped behind your laptop”.

The compatibility

After a brief introduction, customers were asked to play cap on cap off. A number of provocative questions were then asked that had to be recognisable to the customer. These had to be answered by putting on or taking off the cap. This was followed by a short conversation.



Interim reflection

Brief general introduction and explanation of the session

The expected benefit

During a short presentation, the expected benefits were highlighted with the use of crumpled post-its. They embodied the people that benefited from the innovation. For the specific benefits, name cards were used and were interchanged between benefit. The amount of post its were also grouped according to the benefit. The aim was to physically show the impact of the innovation.

Perceiving multiples

The client was asked to do normal work and the designer was impersonating the roll of an employee. While working, paper planes were thrown at the client, which were supposed to represent mails. On each paper plane was a recognisable or crazy message. After all the planes were thrown and read, a conversation was held about the situation and whether it was recognisable.

Embodying alternatives

The customer was asked to read a piece of text and fold a pile of clothes within two minutes. Afterwards, the client had to do the same interaction, but then was allowed to listen to the text. In both scenarios, the client had to get as far as possible with both. Both scenarios were discussed to identify the added value of listening.

Verbal mastery

Using the principles of verbal mastery, a presentation was made. This was a verbal monologue but included questions towards the Client, anecdotes, hand gestures, and a personal appeal at the end.

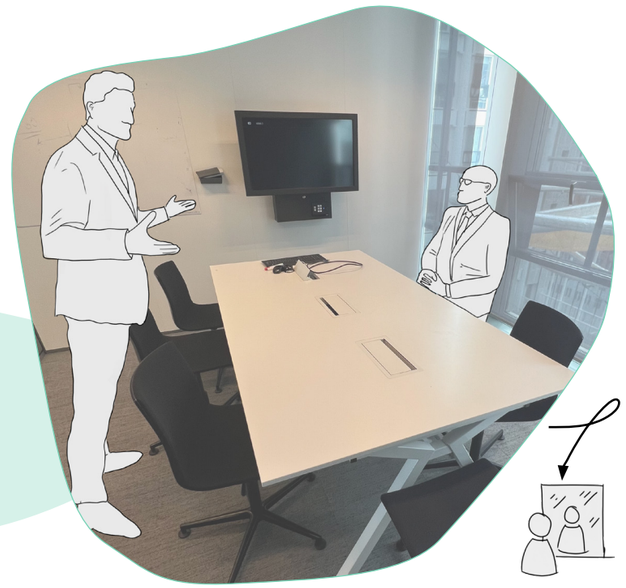


Figure 29. Brief overview of user testing of the principles

Conclusion from ideation

The previous chapter looked at ways to apply the principles found from the literature to Einsteinbrigade outcomes. Thus, a case study was first chosen from the Einsteinbrigade of a completed experiment whose implementation was not successful.

Then, from the previously identified principles, a choice was made of which ones were going to be used for the continuation of the project, as some principles were similar or some were generally applicable. From this, the following 6 principles emerged:

1. *The expected benefit*
2. *The compatibility,*
3. *Sensing surprise*
4. *Perceiving multiples*
5. *Embodying alternatives*
6. *Verbal Mastery*

During individual and co-creative sessions, ideas were generated to apply the different principles to the chosen case study. During these sessions, the following two main points emerged;

- Most of the application ideas revolved around an interaction between the Einsteinbrigade and the Client in question, where the Client was asked to do something;
- Making an overview of the insights of the experiment was key in order to apply the principles.

The 6 interactions were then tested with an experienced IND manager. The following insights emerged from this:

- The added value of the interaction which strengthens the argument to deploy it within the IND culture;
- The use of physical objects supported to get the message across;
- Using recognisable elements in the interaction strengthens the narrative;
- Ending with a personal appeal and a call to action stuck strongly afterwards.

Last, all interactions were ranked for effectiveness, which resulted in the following list:

1. *Embodying alternatives*
2. *Verbal Mastery*
3. *The expected benefit*
4. *The compatibility*
5. *Perceiving multiples*
6. *Sensing surprise*

CHAPTER TAKEAWAYS

- 6 principles were chosen to be included in the design; The expected benefit, The compatibility, Sensing surprise, Perceiving multiples, Embodying alternatives, and Verbal Mastery
- The principles are best shown off when an interaction is designed with them that makes the results clear using the principle
- Physical objects and recognisable elements support the interaction
- Ending with a personal appeal gives the feeling that something should happen afterwards
- To get to the interaction, insights must be bundled in a clear way

Creating the tool

Updated list of requirements

Based on the insights from the test and the preparation needed to arrive at the interactions, the list of conditions was updated which can be seen in Table 2.

#	The design should...	Derived from
1	Convince the client to implement the results	*IND analysis*
2	Convey the value of the results using one or more of the identified principles	*Literature*
3	Translate the insights of an experiment into an interaction based on the principles	*User testing*
4	Provide an overview of the insights of an experiment	*Ideation*
5	Be adaptable and reusable for each experiment	*IND analysis*
6	Be adaptable for different Clients	*Literature*
7	Focus on a face-to-face moment with the Client	*Literature*
8	Not depend on the use of a power point presentation	*Literature*
9	Focus on the moment of results delivery	*IND analysis*
10	Provide a concise and clear explanation of the principles	*Ideation*
11	Support the use of physical objects in the interaction	*User testing*
12	Support the use of recognisable elements in the interaction	*User testing*
13	encourage the use of the principles of verbal mastery regardless of the interaction	*User testing*
14	Be made in Dutch	*IND analysis*

Table 2. Updated list of requirements

Idea generation for a usable tool

Based on the updated list of requirements, ideas were generated for a tool useful for the Einsteinbrigade. This was done individually, an overview of which can be seen in Figure. Some of the examples that came out of the idea generation are: a canvas, a miro board template, a card game with action points, a set of videos explaining the principles and giving an example.

Iterative process

The first concept chosen had taken the form of a one-page canvas per principle. As a one-pager, the canvas provides a structured map that acts as guidance for the Einsteinbrigade during the exploration and experimentation phase of an experiment. Besides aggregating insights in the regular way, this canvas helps them connect the insights to each other, with the aim of designing an interaction to convey the results to the customer.

However, during further reflection with the stakeholders, it was critically questioned what the added value was of bundling all the steps on one sheet. Although the one-pager offers the convenience of being able to view all information at a glance, it does have the consequence of giving all the steps little physical space. It was therefore chosen to give each of the steps its own sheet to give more freedom to the user.

It also emerged that some steps were still too generic. The design should focus on the specifics of the design goal and what is needed to achieve it. Therefore, secondly, it was decided to take out all the generic steps.

Finally, it also emerged during the iterations that there was a lot of overlap in the different canvases in the steps to be taken to achieve the interaction. It was therefore decided to merge the different canvases, within which a choice could be made as to which principle would be used to design the interaction.

The final concept

The interaction framework

From all the insights gained during ideation and reflection of this phase, a final concept was designed which can be seen in Figure 31. This concept also incorporates the Einsteinbrigades comments and remarks, which emerged during the test session discussed later in this chapter.

Overview and explanation of the framework

The framework is a tool for the Einsteinbrigade to compile insights for each experiment, and then design an interaction for this that is appropriate for both the experiment and the client. The framework brings together all the necessary information needed to design a unique interaction per experiment. By actively collecting and placing the insights in a structured way, connections will be made from which new insights and/or ideas can also emerge. This ensures constant iteration and reflection, but most importantly a clear and coherent narrative necessary for the design of the interaction. From this narrative, an interaction can then be designed that suits both the client and the innovation itself. This fresh form of meeting will be a true innovation in itself within IND's current meeting culture. In short, the framework guides the Einsteinbrigade to:

- Compile all insights from and prior to the experiment to make connections;
- Put more focus on aspects that were previously underexposed;
- Design an appropriate interaction to convey the results of the experiment in a recognisable and tangible way;
- Reflect on the work to improve in the future.

The framework contains a set of 7 different canvases that are completed step by step, as well as 6 sub canvasses as support of the principles. A filled-in overview can be seen in Figure 31.

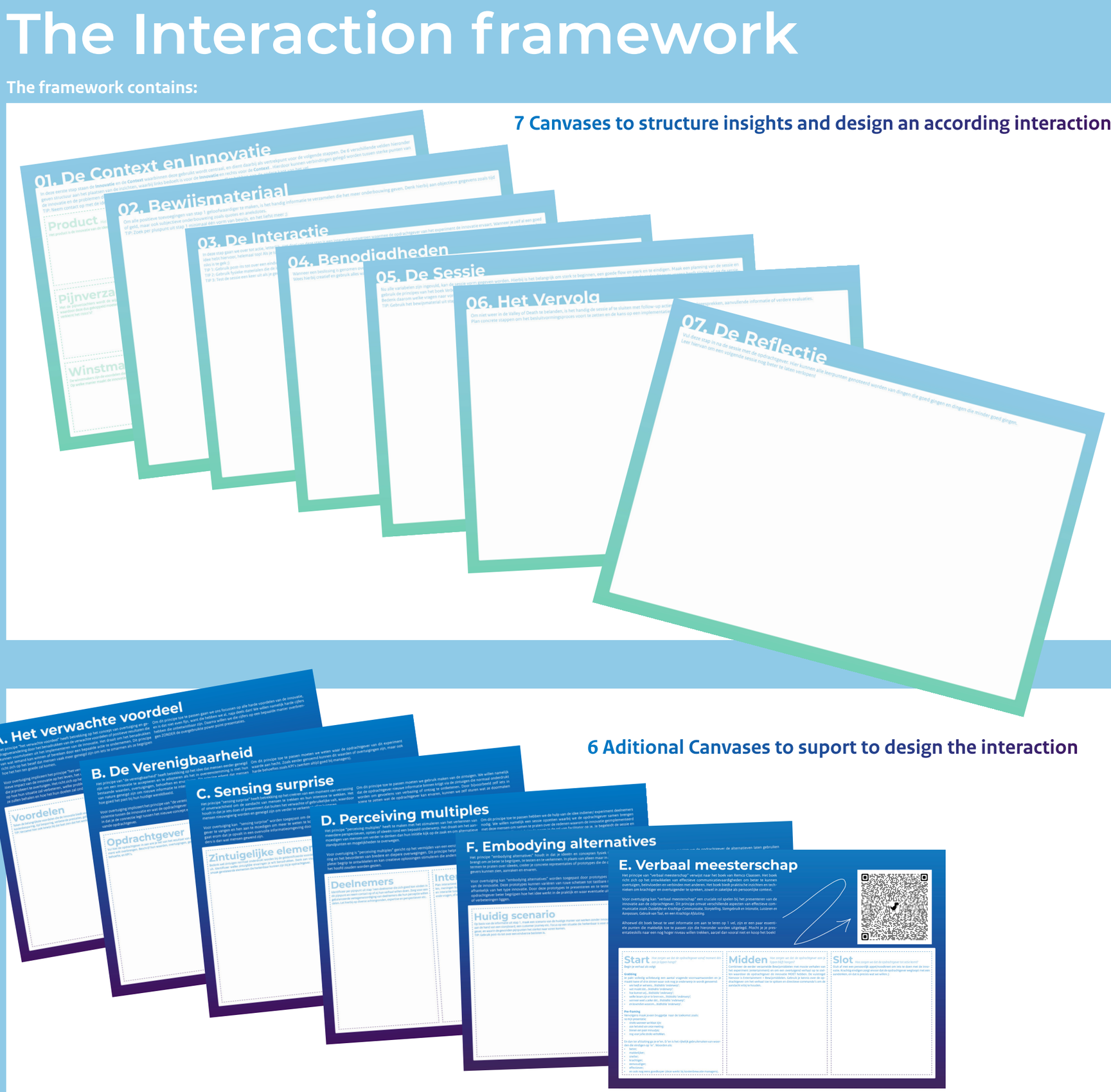


Figure 31. Content of framework

Canvases of the framework

The steps help keep structure in the narrative, as well as in the insights gained. In addition, the steps have been designed to correspond to the stages of the experiment, paying attention to what can be completed first and what only later. Of course, this does not rule out the possibility of going back to adjust, or already ahead to place any assumptions. The steps are as follows:

1. **The context and innovation:** This first step focuses on the Innovation and the Context in which it is used, serving as a starting point for the next steps. Here, connections are made between strengths of the innovation and the problems it solves.
2. **Evidence:** Step 2 takes stock of all the evidence that gives more foundation to the findings from step 1. This can strengthen the interaction as well as provide answers to possible questions.
3. **The interaction:** In this step, the interaction is designed based on the insights from step 1 and 2. The user is asked to be as creative as possible and think outside the box, and can make use of the supporting canvases on the end.
4. **The requirements:** Once a final interaction has been chosen, it is necessary to take stock of what is needed to carry it out. Think of tangible support, but also reserving rooms etc.
5. **The session**: This is where all the steps come together. Once everything has been mapped out, a schedule of the session can be made. Sometimes time is short, so then a tight schedule is needed. Tips on how to start and finish strong are also given in this step. There will (probably) always be questions from the client. The expected questions can be noted in this step to think of answers in advance.
6. **The follow-up:** In this step, recommendations can be noted for follow-up steps. This could include a second appointment, sending documents, or contacting another department.
7. **The reflection:** The final step is for after the meeting. Here all positive and negative points can be noted for the future. Thus, learning from the process for continuous improvement.

As mentioned earlier, at step 5, one can choose to get support from the principles when needed. For this reason, 6 canvases have been added at the end of the framework with a brief explanation of the principles, an example of them and guidance on how to translate them into an interaction. Thus, for each of 6 principles, what specifically needs to be done for each principle to achieve an interaction that suits the Client.

Figure 31. Filled in framework

Use of the framework

The framework is designed specifically for the Einstein-brigade, as they are the owners of the initial problem. It is designed so that one framework is used per experiment. This keeps insights centralised and nothing gets mixed up. Thus, at the beginning of the exploration phase of a new experiment, the framework will be printed. From then on, the framework is constantly filled with all the necessary insights that are gained. By doing this through post-its, changes can easily be made when assumptions turn out not to be correct, or the need is there to change elements. It will be a small extra action during the experiment and its set-up, but with a high return rate at the end.

In the first phase, mainly initial insights and assumptions will be posted, as only during the experiment will it become clear what is right and what is wrong. Finally, all validated insights will be used to design the interaction. Because an interaction will be targeted at the end, possible ways to design it will already be considered during the experiment.

An overview of the use of the framework can be seen in Figure 32.

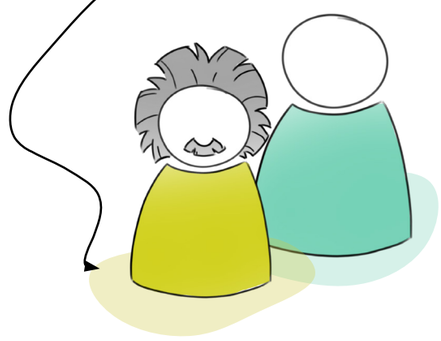
Prints the framework

Provides idea

Business

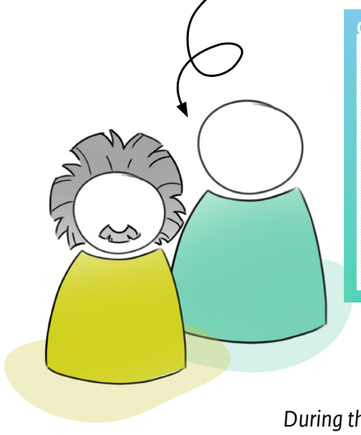
Idea formation & exploration

Delve deeper into the idea together



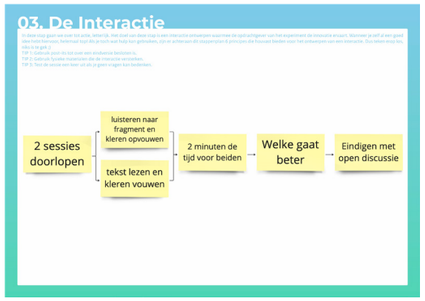
Gathers initial insights and assumptions through discussions with idea proposer and places them in the framework

Experimentation

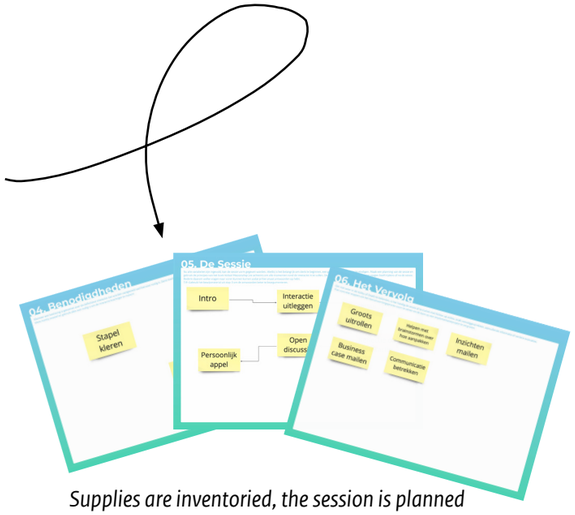


During the experiment, the assumptions are validated and only the validated ones remain in the framework

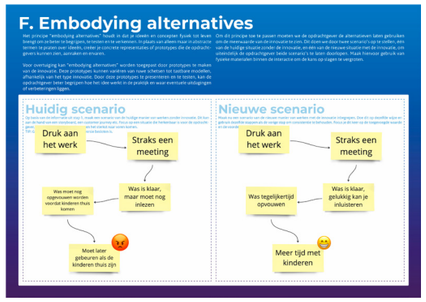
Results & decision



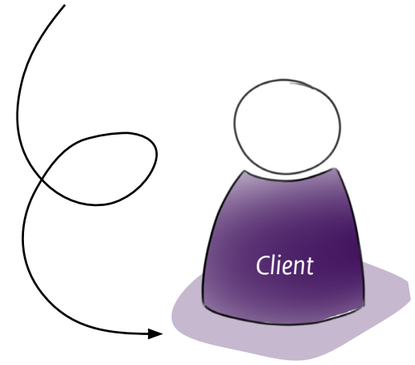
The final interaction is designed



Supplies are inventoried, the session is planned and follow-up steps and questions are noted



The framework is used to convert the insights to an appropriate interaction based on a suitable principle



The experiment is presented to the Client through an interaction

Figure 32. Overview of use of framework

Testing the framework

To check whether the framework is usable for the Einsteinbrigade, a test session was set-up during which the framework was explained and presented. This was done through an in-person session with the entire Einsteinbrigade.

The aim of the test
The aim of the session was to evaluate the design on the set requirements, but had the following 3 main objectives;

- Does the Einsteinbrigade see themselves using the framework before and while conducting experiments?
- Is the Einsteinbrigade able to use the framework itself to design an appropriate interaction for each experiment?
- Does the design of the framework fit the Einsteinbrigades working method?

Participants of the test
To get the most out of the session, it was decided to choose one moment where everyone from the Einsteinbrigade could attend. Therefore, a monthly collaboration moment of the Einsteinbrigade was used during which the session was facilitated.

Set-up of the test
The session was held at an IND office in Den Bosch where a separate room was reserved and lasted one and a half hours. An overview of the session can be seen in Figure 33.

Set-up of test session (1.5 h)

1. Introduction
2. Aim of the session
3. Performing the interactions
4. Explanation of the interactions
5. Explanation of the framework
6. Handing out the framework
7. Choosing a case study and making groups
8. Testing the framework
9. Reflection on the framework

Figure 33. Overview of test session with Einsteinbrigade

Findings from the session

Although the purpose of the framework is to aggregate insights from which an interaction can be designed, it emerged that it had an unintended collateral positive effect on the insights themselves. Namely, the framework led to discussions on the topic and the associated insights, creating new insights and connections. There was discussion within and between the two groups, resulting in the removal of and the placement of new insights. These new insights strengthened the picture of the experiment, allowing a better interaction to be designed. This made it the most valuable insight of the session.

The session also showed that the Einsteinbrigade got on well with the framework. With virtually no additional explanation for each step, all steps were successfully completed, resulting in an interaction. A legitimate question raised was that most of the steps could only be completed towards the end of the experiment. Although this was indeed true, it was made mutually clear that beforehand can be used to place assumptions that can later be tested during the experiment. Of this, it was indicated that placing the assumptions had added value because this way they were not forgotten.

About designing the interactions, the Einsteinbrigade indicated that they are quite capable of this themselves. The examples given during the session led to plenty of inspiration within the teams. It was even indicated that they themselves are able to tailor the interaction to the specific client in question, which before the session was expected to require more guidance in the framework. Although given this, based on stakeholder feedback, it was still chosen to incorporate support for the principles in the final concept.

About the design of the framework, it was stated that it was convenient to use it physically before and during experiments, because it allowed for easy placement and removal of insights, as well as stimulating creativity. However, it was also said that a digital version would be desirable in the long term, because files could be easily stored and retrieved.

Finally, several minor content related comments were made which have been incorporated into the final concept.

#	The design should...	Met?	During?
1	Convince the client to implement the results	*Yes*	*Session 1*
2	Convey the value of the results using one or more of the identified principles	*Yes*	*Session 1*
3	Translate the insights of an experiment into an interaction based on the principles	*Yes*	*Session 2*
4	Provide an overview of the insights of an experiment	*Yes*	*Session 2*
5	Be adaptable and reusable for each experiment	*Yes*	*Session 2*
6	Be adaptable for different Clients	*Yes*	*Session 2*
7	Focus on a face-to-face moment with the Client	*Yes*	*Session 2*
8	Not depend on the use of a power point presentation	*Partly*	*Session 2*
9	Focus on the moment of results delivery	*Yes*	*Session 2*
10	Provide a concise and clear explanation of the principles	*Yes*	*Session 2*
11	Support the use of physical objects in the interaction	*Yes*	*Session 2*
12	Support the use of recognisable elements in the interaction	*Yes*	*Session 2*
13	Encourage the use of the principles of verbal mastery regardless of the interaction	*No*	*Session 2*
14	Be made in Dutch	*Yes*	*Session 2*

Evaluation of the framework

Besides testing the framework against the set evaluation criteria, it was also tested on the basis of feasibility, desirability and viability, of which is said meeting these requirements results in the sweet spot of innovation (Wilcot, 2023b). These three criteria are often used to assess respectively whether the design is executable for the target group, whether it meets the needs of the target group, and whether it will be used and useful in the long term for the target group. Thus, during testing of the framework with the Einsteinbrigade, this was also considered to determine.

Desirability

The overall reaction of the Einsteinbrigade to the design was very complimentary. For instance, it was indicated that the current way of delivering results had been in need of renewal for some time, but no time was found to come up with something for this. Previous brainstorms had taken place within the team to increase chances of implementation, but no attention was given to the delivery of the results.

Feasibility

Analysis of internal documents had revealed that the Einsteinbrigade is familiar with design sprints, so it was assumed that they were familiar with the way of working. Testing of the framework with the Einsteinbrigade proved that they were easily able to work with the design. The information given per step was intuitive to work with, so hardly any additional information to be given. In addition, it was recognised that the framework fits within the current way of working, giving the advantage of gaining new insights and connections between them. Because agreements have been made within the IND about standardised ways of delivering documents, it will have to be used in parallel with this which was said not to cause any problems. Finally, it was evaluated that a digital version was also desirable for storing and making the insights accessible.

Viability

In the case of this project, we chose to measure viability by probability of implementation. Although within the scope of this project it was not possible to test this directly, both sessions explicitly revealed that it did. At the first session, it was clearly stated that the interactions make for a memorable moment, which stands out within the organisation's strong meeting culture. During the session with the Einsteinbrigade, this was repeated, reinforcing the assumption of its effectiveness.

Catalyse change

This final chapter concludes this graduation project. This is done through a conclusion with accompanying discussion, limitations of this project and recommendations for the organisation. Finally, a personal reflection on the past period is also given.

Discussion

The IND as an organisation is experiencing several problems in performing its function successfully, making it unable to handle the large volume of applications. Having found that the traditional problem solving approach is not delivering results, the decision was made to become a more innovative organisation with a focus on bottom-up innovation. However, to carry out bottom-up innovation successfully, it is important that the valuable ideas are implemented. Currently, the team responsible for this called the Einsteinbrigade, is experiencing that too many of their valuable results end up in the so-called Valley of Death. This graduation project of just over 20 weeks therefore sought to answer the question:

"Why are completed experiments with a positive recommendation from the EB not followed up with implementation?"

The study revealed that the Einsteinbrigade is not allowed and unable to implement their results, making them dependent on the rest of the organisation to do so. Among other things, certain types of CHANGE initiatives are used within the IND for this purpose. During the analysis of these processes, it became clear that the agreements around these processes and the culture within the IND present challenges that hinder successful bottom-up innovation. The lack of capacity for new initiatives and agreements on the follow-up of the Einsteinbrigade's results has forced the Einsteinbrigade to find its own way in. To intervene here, it is important for the Einsteinbrigade to find a way to effectively communicate the value of their results to Clients authorised for implementation. Therefore, the following design goal was established:

"With my to be designed intervention, I want to achieve that Clients within the IND respond to the needs of the Business by making the Einsteinbrigade capable of effectively conveying the value of an experiment to the Client."

Based on 6 principles found from the literature that have been proven to promote implementation, applications were devised to apply them to Einsteinbrigade outcomes. From testing these principles, it emerged that an interaction based on the principle had the most stimulating effect of communicating the value. Various ways were then explored to get from the insights of an experiment to an interaction. This eventually led to the final design.

The interaction framework is a step-by-step guide that can be used by the Einsteinbrigade, before and during their experiments, to place insights in an overview, allowing existing and new connections to be made, to finally be able to design an appropriate interaction based on one of the principles.

A test session with the Einsteinbrigade showed that the framework gave a long-awaited and desired innovation to the way of delivering results. It was also concluded that the design was intuitive and fitted well with the current way of working. Finally, it was expected to definitely improve the chances of implementation, but only time would tell.

Looking back to the beginning of the study, the outcome of this project was not the one expected. It was assumed in advance that the lack of implementation was caused by a misalignment between the Einsteinbrigade and the goals of the rest of the organisation. In reality, it was much more complex, mainly because the IND did not meet the conditions for successful bottom-up innovation. This manifested itself in the absence of clear agreements on the bottom-up innovation process, no criteria for starting initiatives and that the current way of presenting results failed to convey value. This makes it necessary to fight for scarce capacity within the IND to win a spot for implementing results.

Limitations

Complexity of the organisation

The IND is an organisation with a total of 5,500 employees. Within the scope of this project, it therefore proved very difficult to identify which individuals were of value to conduct interviews with in a short time, and to be able to find an actual moment for an interview. In addition, a new environment also brings with it many new concepts, where it was also noted that many different terms were often used to describe the same concept. Retrieving essential pieces of information in the digital systems also often proved difficult due to the large amount of data present. Finally, it was also very difficult to map out the whole problem, identifying exactly what affected each other, with the corresponding consequences.

Design of interactions

The second limitation in this design is its designed interactions. Although the identified principles have been proven to increase the probability of implementation, using them to design an interaction is uncharted territory. Therefore, it is acknowledged that the designed interactions tested in the first design phase could have been better. In addition, explanations of the principles were scarce within the literature, which left much room for interpretation.

Piece of the puzzle

As has become clear in this project, the designed framework is one of the solutions to the Einsteinbrigades problem. Recognising that it is a complex problem, this design will not be a conclusive solution. If the IND's ambition is to really implement bottom-up innovation successfully, clear agreements will have to be made in which the identified conditions should be the guiding principles.

Recommendations

Further development through iteration and learning

First, because the current framework is based on six principles, it is recommended that more experimentation with and search for other principles in the future. With that, we will have to constantly look at what works and what doesn't in order to remain future-proof, which suits the nature of innovation. With that, the framework will be a fluid tool that works as a guide for the Einsteinbrigade. Eventually, it is expected that the Einsteinbrigade will have mastered the framework to the point where they can look for other principles. This expectation was also expressed by the team during the testing session.

Selection criteria and scrapping initiatives

The second recommendation point is to make clear criteria why a CHANGE initiative is started. Although this will ensure that the subjectivity disappears when starting an initiative, which in fact cancels out the design of this project, it will also ensure that a lot of unnecessary initiatives are not initiated. When this is present, it could be used to assess ongoing initiatives, from which stopping insufficient initiatives could result.

Clear problem analysis as a starting point

As highlighted in the draft objectives, concrete problem analysis is currently missing from the renewal processes. Although it has been noted that there is growing attention to this, the concrete incorporation of this cannot be done soon enough. It is expected that there is now a lot of overlap from the CHANGE initiatives of problems they solve, which is a waste of the organisation's capacity with all its consequences. In other words, "assumption is the mother of all mistakes".

Personal reflection

Clear agreements on processes

Fourth, it is recommended that clear agreements on processes be made within the IND. An example of this is the Einsteinbrigade, where no agreements have been made on which ideas will be handled by them, as well as agreements on the follow-up of the results.

Innovation maturity of the organisation

Finally, it is strongly recommended that the IND continue its journey towards becoming an innovatively mature organisation. All signals from the organisation cry out that the traditional approach to problems is no longer cost-effective for the complexity of the challenges. In addition, these challenges also hint at an immature organisation, which was also reflected in a number of interviews. To avoid falling back into the old ways of doing things, the IND, and especially its management, will have to embrace new ways and means accompanied by a more responsive and flexible approach.

I would like to conclude this graduation project through a personal reflection. I started this journey within IND out of personal ambition and curiosity. An ambition to get more designers into government organisations, and a curiosity as to whether this is a place where I can carry this out and feel at home doing so.

Over the past (just over) 20 weeks, I have been working my way through the complex landscape of the Immigration and Naturalisation Service, and to be honest, I have more than enjoyed this. In the process, I have been completely let go to make my own way, relying on my approach and ability to think. In this, my strengths of curiosity, perfectionism and analytical thinking skills helped me greatly in making the organisation and its challenges my own. This was particularly evident in the research phase, where I worked independently and achieved great results.

In addition, this project also served as a learning opportunity. At the beginning, I set myself the task of getting better at planning, communicating and presenting. As for planning, I believe it fluctuated with this project. Although the intended goal was achieved, there were also stressful moments where a lot of tasks came together. In hindsight, this could have been better anticipated through communication, which brings us to the second point.

Within the IND, I believe I communicated clearly with and to my stakeholders. For instance, even before the project started, a weekly meeting was scheduled with my supervisor, which demonstrated its value time and again. The communication to my supervisors at TU Delft began moderately by my own admission. I personally think I should have made better agreements on this beforehand, which did happen halfway through the project. Also, in my opinion, my presentations could have been clearer, by providing more focused information and using supporting visuals, for example. There was an upward trend in this in the second half of the project, but this could have been better and will therefore be taken into account in the future.

This therefore overlaps with the third point, being presentation, which emerged in this project during informal meetings and formal presentations. In the paragraph above, I actually said that I think I could and should have performed better at this. At the official presentation moments, this was less of a problem, which was also given back as feedback. When I look back on the process, I can conclude that this is due to the planning, where I took time off for these presentations to make the story clear. This will therefore also be applied in future informal meetings.

All in all, I look back positively on this graduation project, and in the process my time at IND. To conclude, I want to return to my question of whether I see myself working in a government organisation as a designer. My answer to this is yes, but with a side note. Because of the freedom I was given during this project, I do not think I was able to get the full experience of the often-mentioned viscosity, or as my supervisor beautifully put it, “like having to swim through molten concrete”. Therefore, I am eager to continue my journey within the government, doing my utmost to demonstrate the power of a design-based approach, hoping that I am not the last designer with this ambition.

Thanks for reading,

Diederik

References

A

Asielzoekers Ter Apel op stoelen geslapen: “Hopelijk geen voorbode op nieuwe crisis.” (2023, May 25). RTL Nieuws. https://www.rtlnieuws.nl/nieuws/nederland/artikel/5386523/asielzoekers-ter-apel-wegens-drukte-op-stoelen-geslapen

B

Baer, M. (2012). Putting Creativity to Work: the Implementation of Creative Ideas in organisations. Acadamy of Management Journal, 55(5), 1102-1119.

Baregheh, A., Rowley, J., & Sambrook, S. (2009). Towards a multidisciplinary definition of innovation. Management decision, 47(8), 1323-1339.

Bloch, C., & Bugge, M. M. (2013). Public sector innovation—From theory to measurement. Structural change and economic dynamics, 27, 133-145.

Borins, S. (2002). Leadership and innovation in the public sector. Leadership & organisation Development Journal, 23(8), 467-476.

C

Centraal Bureau voor de Statistiek. (2022, December 15). Prognose: meer inwoners door migratie. Centraal Bureau Voor De Statistiek. https://www.cbs.nl/nl-nl/nieuws/2022/50/prognose-meer-inwoners-door-migratie#:~:text=Na%20een%20daling%20in%202020,aantal%20jaren%20ook%20weer%20vertrekt

Centraal Bureau voor de Statistiek. (2023, April 25). Bevolking groeit met 27,4 duizend inwoners in eerste kwartaal. Centraal Bureau Voor De Statistiek. https://www.cbs.nl/nl-nl/nieuws/2023/17/bevolking-groeit-met-27-4-duizend-inwoners-in-eerste-kwartaal

Clark, H. H., & Brennan, S. E. (1991). Grounding in communication.

Cozijnsen, A.J., & Vrakking, J.W. (1992). Ondernemen en vernieuwen. Deventer: Kluwer Bedrijfswetenschappen (aangehaald in: Pater, L., Roest, S., Dubbeldam, S., & Verweijen, M. (2002). Implementeren: Het speelveld in de praktijk. Lemma, p. 22).

D

De oorzaken van migratie onderzoeken – Waarom migreren mensen? | Nieuws | Europees Parlement. (2023, February 5). https://www.europarl.europa.eu/news/nl/headlines/world/20200624STO81906/de-oorzaken-van-migratie-onderzoeken-waarom-migreren-mensen

Dorst, K. (2011). The core of ‘Design Thinking’ and its application. Design studies, 32(6), 521-532.

Dougherty, D. & Hardy C. (1996), ‘Sustained product innovation in large mature organisations: overcoming innovation to organisation problems’, Academy of Management Journal, vol. 39, nr. 5, pp. 1120-1153.

E

Europees Parlement wil snel voort met nieuwe asielwetten. (2023, April 20). De Tijd. https://www.tijd.be/politiek-economie/europa/algemeen/europees-parlement-wil-snel-voort-met-nieuwe-asielwetten/10462069.html

F

Fixsen, D.L., Naoom, SF., Blase, K.A. Friedman, R.M., & Wallace, F. (2005). Implementation research: A synthesis of the literature. University of South Florida, Louis de la Parte Florida mental Health Institue, The National Implementation Research Network.

G

Gaynor, G. H. (2013). Innovation: top down or bottom up. IEEE Engineering Management Review, 41(3), 5-6.

Grün, A., & Altmann, P. (2011). Rust en regelmaat / druk 1: wat je kunt leren van het leven in een klooster

H

Head, B. W. (2008). Wicked problems in public policy. Public policy, 3(2), 101.

Holierhoek, S. E., & Price, R. A. (2019, November). The Role of Design in policymaking. In Conference Proceedings of the Academy for Design Innovation Management (Vol. 2, No. 1, pp. 999-1012).

Huberts, D. (2023). Update: Incoming student mobility in Dutch higher education 2022-23. Den Haag: EP-Nuffic.

Huttinga, T. (2023, January 18). Waarom ik ontslag nam bij de IND. NRC. https://www.nrc.nl/nieuws/2023/01/18/waarom-ik-ontslag-nam-bij-de-ind-a4154590

I

IDEO Design Thinking. (n.d.). IDEO | Design Thinking. https://designthinking.ideo.com/

Implementation. (2023). https://dictionary.cambridge.org/dictionary/english/implementation

J

Jones, P. H. (2014). Systemic design principles for complex social systems. Social systems and design, 91-128.

K

Klein, K. J., & Knight, A. P. (2005). Innovation implementation: Overcoming the challenge. Current directions in psychological science, 14(5), 243-246.

Klein, K. J., & Sorra, J. S. (1996). The challenge of innovation implementation. Academy of management review, 21(4), 1055-1080.

Kleysen, R.F. & C.T. Street (2001), Towards a Multi-dimensional measure of individual innovative behaviour, Journal of Intellectual Capital, Vol. 2 (3), 284-296.

L

Linssen, J. (2018). Bottom up innovation. www.linkedin.com. https://www.linkedin.com/pulse/bottom-up-innovation-jaap-linssen/

Living Futures: Scenario Kit. (2022, February 9). Living Futures. https://livingfutures.org/

M

Mazzocchi, F. (2012). Complexity and the reductionism–holism debate in systems biology. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 4(5), 413-427

Ministerie van Algemene Zaken. (2023, February 13). Staat van de Uitvoering 2022. Kamerstuk | Rijksoverheid.nl. https://www.rijksoverheid.nl/documenten/kamerstukken/2023/01/18/bijlage-3-staat-van-de-uitvoering-2022

Ministerie van Justitie en Veiligheid. (2018, June 28). Samenwerking in de keten. Migratieketen. https://magazines.rijksoverheid.nl/jenv/migratieketen/2018/01/samenwerking-in-de-keten

Ministerie van Justitie en Veiligheid. (2022, December 21). De asielketen: wie doet wat? Publicatie | Rijksoverheid.nl. https://www.rijksoverheid.nl/documenten/publicaties/2015/11/17/de-asielketen-wie-doet-wat

Ministerie van Justitie en Veiligheid. (2023, May 31). Stand van de Uitvoering Immigratie- en Naturalisatiedienst (IND). Rapport | Rijksoverheid.nl. https://www.rijksoverheid.nl/documenten/rapporten/2023/05/23/tk-bijlage-9-stand-van-de-uitvoering-ind

Ministerie van Volksgezondheid, Welzijn en Sport. (2023, April 18). Wat is implementatie? Implementatie | Zorg Voor Innoveren. https://www.zorgvoorinnoveren.nl/implementatie/wat-is-implementatie

Mitchell, O., & Mitchell, O. (2008, December 4). The 6 reasons why face-to-face presenting is more persuasive - Speaking about Presenting. Speaking about Presenting - Public speaking advice for introverts, by an introvert. https://speakingaboutpresenting.com/presentation-philosophy/6-reasons-face-to-face-presenting-persuasive/

Muntslag, D.R. (2001). De kunst van het implementeren. Inaugurale rede, Universiteit
Twente

N

Naturalisatiedienst, I. E. (2023, April 28). Organogram. IND. https://ind.nl/nl/over-ons/onze-organisatie/organogram

Navigator – dé website voor de jurist en fiscalist. (n.d.). Navigator. https://www.navigator.nl/document/inod740b333237afa817305fa0406ca7835c/fiscale-encyclopedie-de-vakstudie-algemeen-deel-aant-11-inleiding-bij-algemene-wet-bestuursrecht-artikel-101-definitie-mandaat?ctx=WKNL_CSL_606

NOS. (2023, July 7). Kabinet gevallen, geen akkoord over asielmaatregelen. NOS. https://nos.nl/collectie/13942/artikel/2481938-kabinet-gevallen-geen-akkoord-over-asielmaatregelen

P

Parmesan, C., Morecroft, M. D., & Trisurat, Y. (2022). Climate change 2022: Impacts, adaptation and vulnerability (Doctoral dissertation, GIEC).

Parool. (2023). https://www.parool.nl/amsterdam/amsterdamse-vluchtelingen-protesteren-tegen-lange-wachttijd-ind-het-voelt-alsof-ik-voor-niets-leef~b10adf92/?referrer=https://www.google.com/
Pater, L., Roest, S., Dubbeldam, S., & Verweijen, M. (2002). Implementeren: Het speelveld
in de praktijk. Lemma.

Prince2. (n.d.). PRINCE2 Methodology Explained | EUR. https://www.prince2.com/nl/prince2-methodology

R

Rogers, E.M. (1995). Diffusion of innovations (4th ed.). New York: The Free Press.

S

Stals, K. (2012). De cirkel is rond: Onderzoek naar succesvolle implementatie van interventies in de jeugdzorg (proefschrift Universiteit Utrecht). https://staatvandeuitvoering.nl/publicatie/staat-van-de-uitvoering-2022/

Stellinga, B. (2012). Dertig jaar privatisering, verzelfstandiging en marktwerking (p. 106). Amsterdam University Press.

Snowden, D. J., & Boone, M. E. (2007). A leader’s framework for decision making. Harvard business review, 85(11), 68.

Systemic Design Framework - Design Council. (n.d.). https://www.designcouncil.org.uk/our-resources/systemic-design-framework/

T

Thiel, S. V. (2004). Governance of implementing organisations: New issues for governance in the public domain

Trouw. (2023.). https://www.trouw.nl/binnenland/ind-kraakt-onder-werkdruk-en-waarschuwt-voor-nog-langere-wachttijden~bd09af94/?referrer=https://www.google.com/

V

Van Hoesel En Ron Engelenburg, P. (2019, October 11). Burgerparticipatie: koninklijke weg naar beter beleid? - Platform Overheid. Platform Overheid. https://platformoverheid.nl/burgerparticipatie/

Vink, J., Edvardsson, B., Wetter-Edman, K., & Tronvoll, B. (2019). Reshaping mental models–enabling innovation through service design. Journal of Service Management, 30(1), 75-104.

W

Wensing, G., & Grol, R. (2017). Implementatie: Effectieve verbetering van de
patiëntenzorg (7th ed.). Bohn Stafleu Van Loghum.

Wensing, M., Ouwens, M., Boerboom, L., Bal, R., de Bont, A., de Mul, M., ... & van der Niet, A. (2010). Kennis van implementatie programma. IQ Scientific Institute for Quality of Healthcare.

Wetten.nl - Regeling - Vreemdelingenwet 2000 - BWBR0011823. (2022, October 1). https://wetten.overheid.nl/BWBR0011823/2022-10-01

Wie is Remco Claassen, leiderschap, trainer, entertainer. (n.d.). https://remcoclaassen.nl/over-remco/

Wilcot. (2023). The value of experimentation in innovation. Board of Innovation. https://www.boardofinnovation.com/blog/the-value-of-experimentation-in-innovation/

Wilcot. (2023b). How to hit the innovation sweet spot and why it’s not all that straightforward. Board of Innovation. https://www.boardofinnovation.com/blog/how-to-hit-the-innovation-sweet-spot/

Wissema, J.G., Messers, H.M., & Weijers, G.J. (1991). Angst voor veranderen?: Een mythe! Van Gorcum)