



Co-Creating Misinformation - Resilient Societies

Co-creation framework – building a sustainable ecosystem

D1.1

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Executive Summary

This deliverable is a report on the socio-technical requirements for Co-creation. It provides a Methodological Framework for the Co-creation to take place both within the context of the Co-Inform Project and within the engagement and outreach that will take place in the Pilots. Together with its accompanying Appendix the deliverable will include theoretical insights and hands on practical guidelines on how to design and run co-creation workshops, engage with stakeholders in the various pilots, as well as provide for an ethical and legal framework to guide and govern such interactions. The Appendix will be used as guide to the consortium and a “living document” constantly evolving as the project goes forward.

The rapid dissemination of misinformation has become a serious threat that necessitates prompt action. Co-Inform aims to study the phenomenon in a multidisciplinary manner using the Co-creation framework as an overarching principle for project activities. The concept of co-creation implies that affected parties actually ‘co-create’ together towards a mutually shared goal or a value. Interactions, sharing ideas and collaboration would enhance the value and the relevance of the outcome.

The stakeholder groups (citizens, fact-checkers/journalists and policymakers) will be brought together to work at co-creating policies for managing misinformation, to ensure that such policies benefit all parties involved and help restore the trust among involved parties.

Three pilots will be conducted, a Swedish pilot focusing on the thematic of misinformation hotspots with regard to new-comers, an Austrian pilot that focuses on the Limited-profit Housing Sector (LPHS), and a Greek pilot with a focus on misinformation regarding asylum seekers and new-comers in the country.

Stakeholders’ engagement in the co-designing or prototyping sessions is expected to elicit the policy makers’ requirements and needs as well as identify the challenges that the citizens and fact-checker are facing.

The co-creation process goal is to create misinformation resilient societies through the use of relevant co-created innovative technologies, information appraisal skills, and regulatory policies. Dealing with human subjects and potential vulnerable subpopulations entails a repertoire of actions, ethical practices and safeguarding policies for collecting, storing, analysing and reporting the results of the co-creation process.

Table of Contents

- 1. Introduction..... 1**
 - 1.1 Background..... 1
 - 1.2 Alignment with broader projection..... 3
 - 1.3 Methodology..... 5
 - What is Co-Creation and Co-Design 5
 - 1.4 Value Co-creation..... 6
- 2. Co-Inform co-creation methodology 8**
- 3. Relevance to Co-Inform Project 12**
 - 3.1 What are we trying to achieve – Thematic and Tasks 12
- 4. Co-Design Methodology 14**
 - 4.1 Overview Stakeholder Analysis and Mapping..... 14
 - 4.2 Who are the Stakeholders?..... 18
 - Citizens 18
 - Fact-checkers/journalists 18
 - Policy makers and analysts..... 20
 - 4.3 Stakeholder engagement strategy..... 21
 - Stakeholder Mapping..... 21
 - 4.4 Workshop (Interaction moments) Design..... 23
 - Exercise 1: Seeing the System 23
 - Exercise 2: Spotting the Paradox..... 24
 - Exercise 3: Horns of Dilemma 25
 - Exercise 4: Constraints & Limits of the System 26
 - 4.5 Sustaining stakeholder engagement – What are the incentives and barriers in place?..... 27
 - Welcome 28
 - Activity..... 28
 - Retention..... 29
 - Training..... 29
 - Social Events..... 29
- 5. Pilot Context..... 30**
 - 5.1 An introduction to the Pilots..... 30

Sweden	31
Greece	33
Austria	35
6. Legal and Ethical section	36
6.1 Ethical guidelines on engaging vulnerable and marginalized segments of society in research	36
6.2 Data collection, storage and processing requirements.....	37
6.3 Risk analysis and management plan	38
References	40

APPENDIX D1.1

A. Co-Design Tools, Materials and Resource Guide	1
1. Methods for Planning and Baseline Analyses	1
1.1 Organizational chart diagram.....	1
1.2 Sheet of agents/actors involved in the co-design process.....	3
1.3 Catchment Plan	4
1.4 Set of rules for the participation	5
2. Methods for Interaction Moments to capture user requirements & functional design.....	6
2.1 Opinion Survey	6
2.2 Brainstorming.....	7
2.3 Hats	9
2.4 Philipps 66	10
2.5 Significant Change	12
2.6 Metaplan	13
2.7 Empathy Map	15
2.8 What if	17
2.9 Brainpool	18
2.10 Method 365	21
2.11 Future Workshops	22
2.12 Tangible Topology	23
2.13 Process Mapping	24
3. Methods for Technical design, process & data integration.....	26

3.1 Wished future.....	26
3.2 SCAMPER.....	28
3.3 FMEA (Failure mode and effects analysis).....	30
4. Methods for Interaction Moments Technical design, process & data integration	31
4.1 Focus Group	31
4.2 Scenario Planning.....	33
4.3 Customer Journey Map.....	34
4.4 Role play.....	36
4.5 Storyboard.....	38
B. Inventory of Methods for Co-design based on Nesta’s “Playbook for innovation”	40
1. Learning and developing innovation skills	40
2. Expertise levels.....	42
2. Distinction of Zones.....	43
3. Flow of learning experience	45
4. Cone of Learning	46
5. Competency framework for public problem solving	47
6. Principles of Innovation	49
7. 3-30-300 second rule.....	51
8. Basic model design.....	53
9. Double Diamond design process.....	54
10. Analytical approach.....	56
11. Five strategic questions.....	57
12. Purpose of design.....	59
C. Observation Protocol Template.....	61
D. References	63

List of Figures

Figure 1. Co-creation Framework ecosystem for Co-inform.....	2
Figure 2. Co-Inform Project interdependencies	4
Figure 3. Work Package 1 Timeline	5
Figure 4. eGovlab Co-creation methodology	9
Figure 5. Quadruple Helix Model	10
Figure 6. Stakeholder mapping.....	16
Figure 7. Wheel of Stakeholder Engagement.....	22

List of Tables

Table 1. Expected benefits from Co-Creation Methodology application on Co-Inform	13
Table 2. Incentives and Barriers on stakeholder engagement.....	28

Abbreviations and Acronyms

CUT	Cyprus University of Technology
GBV	Austrian Federation of Limited-Profit Housing Associations
GDPR	General Data Protection Regulation
ICT	Information and Communication Technologies
IOM	International Organisation for Migration
LHPS	Limited-Profit Housing Sector
OU	Open University
SU	Stockholm University
UKOB	University of Koblenz-Landau
UNHCR	United Nations High Commissioner for Refugees
WP	Work Package

1. Introduction

1.1 Background

Complex systems are unpredictable and can disrupt even the best-laid plans, and yet this emerging pattern of events, trends, ideas also presents a constantly shifting landscape of opportunities for change. Critical thresholds, which are characterized by breaks in the normal state of the system (this might be a political or economic crisis, misinformation in social media, or climate breakdown) represent real windows of opportunity for change agents. Complex systems are shaped by the interaction between scales so that what is possible at one scale (e.g., a stakeholder community) is shaped by what is happening at another (e.g., in the broader socio-technical culture). The effect can be dampening or constraining, but it can also be amplifying and the relationship can go in either direction - change comes from the top down and from the bottom up, and it can radiate from the centre.

In this deliverable we will provide a framework and guide for the complex system of Co-Creation which is at the heart of the Co-Inform project. The deliverable is designed to provide the reader a sound foundational knowledge of the theoretical constructs of co-creation, while at the same time providing practical guidelines on how to execute the ground level realities. The structure of the deliverable hence is headed by theoretical discussions around participation and co-creation within the public realm. From there, a specific instantiation or iteration will be presented where the project's methodology on co-creation is discussed. The relevance of this framework to the broader project goals and objectives is discussed in section three. From section four onwards we dive deep into the practical hands on design elements of the co-creation method. The figure below illustrates the flow of inputs from this deliverable unto the wider project and pilot demonstrations.



Figure 1. Co-Creation Framework ecosystem for Co-Inform

1.2 Alignment with broader projection

This deliverable serves a dual purpose. On the one hand it provides a project wide Methodology for Co-Creation, which can be used as a template allowing internal mechanism to be co-designed. On the other hand, it also serves as an outward facing Guideline when engaging Pilot stakeholders in co-creation activities with the overarching goal of fighting misinformation. With regard to the first, more internally facing goal, the deliverable will be the instrument via which WP1 will liaise with other work packages in the project, namely WP2, WP4, and WP5. More specifically, the shared understanding of co-creation as a methodology, will inform policy design within WP2, technical development of platforms and tools in WP4, and evaluation of impacts within WP5.

Digging deeper, in WP2 is set the clear objective to co-create key criteria and indicators for handling identified misinformation. This co-creation will be done internally within the project and via liaison with expert groups on misinformation. Grounding on this, the project will proceed to define policies to guide misinformation handling processes and implementation, as well as define a set of intervention procedures and techniques. It is precisely from these definitions and shared understanding (which this deliverable framework will facilitate) that WP2 will generate encodings of misinformation management policies to be used in WP3 and WP4. Technical tools for big data analysis and agile platform development (that will take place in WP3 and WP4) for fact checking and creating misinformation resilient technologies will be informed by the overall framework presented within this deliverable and from direct inputs from WP2. The requirements and needs from the stakeholder groups identified with and engaged via the pilots, will further feed directly into the technical design within the project, in an iterative manner.

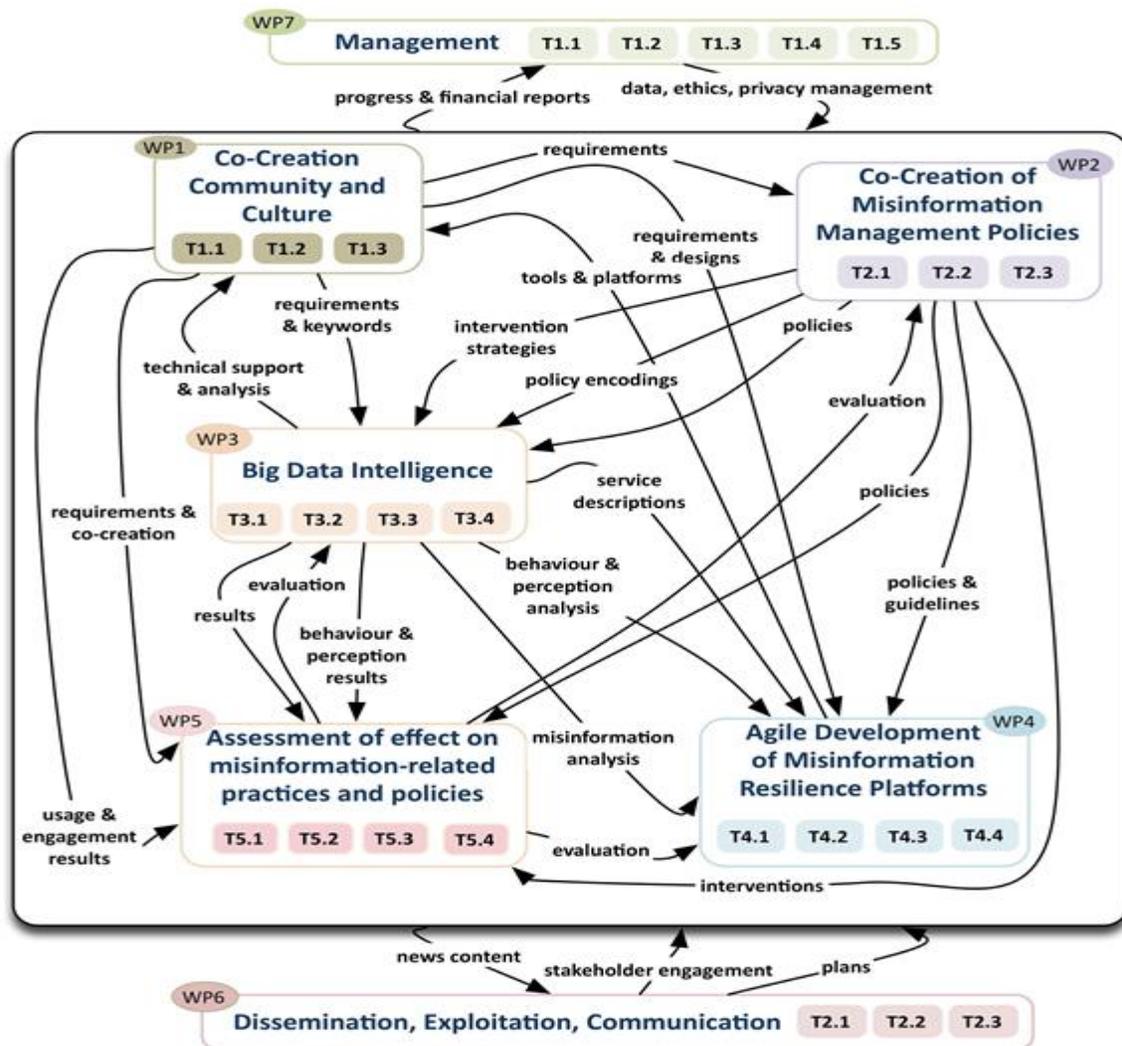


Figure 2. Co-Inform Project interdependencies

In addition to situating this deliverable within WP1 and the wider project, we also offer here a clear insight into how stakeholders will be mapped, engaged and how their needs as well as experience will be captured using the co-creation methodology (regarding the outward facing goals). These needs and insights emerging from a diverse set of stakeholder groups (fact checkers, policy analysts and support staff, citizens), will richly influence the policy and technical design that will take place within the Co-Inform Project.

The motivation behind this design is to avoid a technology deterministic flow, where the design and deployment of misinformation challenging artefacts is driven instead by the actual communities that result most endangered and affected by its spread.

In terms of timeline, the framework presented here marks the start of a complex journey, as represented graphically in Figure 3. The motivation underpinning this roadmap is to equip all partners within Co-Inform with a clear set of targets and shared milestones, that will shape the outcomes of the project, mainly that of creating a Misinformation-Resilient Society.



Figure 3. Work Package 1 Timeline

1.3 Methodology

What is Co-Creation and Co-Design

Participation in decision making and policy design is not new. The concept has evolved from Arnstein's (1969) ladder of participation to Rao outlining the hierarchy of involvement and layers of control of citizens, to Manzini's (2015) map of participation with its dual axis of collaborative and active involvement. Manzini further qualifies this, by bringing in interactional quality and the strength of social ties resulting from participatory activities. Within this deliverable we set out to situate co-creation and the value generation within, along these dual axes. We set out to design a framework that will enable the co-creation of misinformation resilient societies, as is the mandate of the Co-Inform Project.

Co-creation emerges here as an evolving concept within participatory design, with related notions such as co-design and co-production often used to define it. Co-creation can be seen as a more specific instantiation, where one refers to the active involvement of end-users in various stages of the production process (Prahalad and Ramaswamy 2000; Vargo and Lusch 2004). In the literature regarding active citizen involvement, the term co-production also occurs (Brandesen and Pestoff 2006; Verschuere, Brandesen, and Pestoff 2012). "ICT-enabled coproduction can improve the efficiency of processes, fasten response times, make them more secure by reducing human errors, and increase inclusion, democracy and participation as it provides the same opportunities to different actors" (Uppström & Lönn, 2017, p. 413). Thus, there is the claim that co-production provides innovative ways for government and citizens to co-create public values.

The concepts of co-creation and co-production seem at times to be related (Vargo and Lusch 2004) while at other times, even interchangeable (Gebauer, Johnson, and Enquist 2010). Voorberg et al. (2015) differentiate three types of co-creation, in which the citizens are co-implementers, co-designers and co-initiators (in terms of degree of citizen involvement) in social innovation. Co-creation as a term is reserved in the literature for the involvement of citizens in the (co-)initiation or co-design level. Co-production instead is considered as the involvement of citizens in the (co-)implementation of public services (Voorberg et al 2015). According to Voorberg et al. (2015), most studies available in literature are focused on citizens as a co-implementers, while only a few looked at the role of citizens as co-designers. Within the scope of this project, we will address this precise gap by bringing three stakeholder groups, namely fact-checkers, policy analysts and citizens in the design process of creating a misinformation resilient society. The uniqueness of this approach lies in the fact that these stakeholders will not be brought into the design process once key decisions have been made, to validate existing preconceptions of needs and requirements. Rather, they will co-design the scope and outcomes, making them more relevant and grounded in the realities of their everyday experience.

1.4 Value Co-creation

The challenge of tangibly defining such a tenuous, subjective and abstract concept such as value is one that has occupied many philosophers, academics and government officials alike. Be it in search of a common understanding or a way to capture and measure it, a myriad views and opinions have prevailed on the subject. Bannister & Connolly (2014) have provided a comprehensive categorisation and taxonomy for public value specifically within the context of governmental transformation and the impact of ICTs. They, for instance, point out that being efficient is considered the right thing for public servants to be, but they argue that efficiency is, at best, a borderline case for consideration as a question of morality,

when looking at the impact of ICT on values. They bring to our attention that apart from the exceptions of privacy and transparency, there is surprisingly little to be found in the literature on the subject of ICT and public-sector values. Kernaghan (2003) categorises public value along one axis from individual to public interest, and another axis that looks at ethical, democratic, professional and people-based values. When they look at orientation, they differentiate between duty, service and socially oriented values. Of particular interest to us within the remit of this project is the relationship between public administrations, policy bodies, fact checking Civic Society organisations and citizens.

While the phenomenon of co-creation examined through the lens of activities tends to dominate the literature, this perspective is relatively silent on interactional creation, which is being transformed by new interconnections catalysed by both digitalization and political change. Social media and the internet have made it easier to identify issues across any scale (localized neighbourhood to global planetary concerns). However, while the ability to identify and express issues is made more accessible, there is an ever pressing need to create mechanisms for connecting those affected by an issue, to means of taking action to address that issue. We argue for a more nuanced understanding of co-creation as seen through the lens of interactions, leading us to take up the task of explicitly problematizing where value is created, for whom and how. To do so, we draw on the work of Ramaswamy (2009) who consider artefacts, processes, interfaces and persons coming together in purpose-built system environments of platformed interactions, increasingly enabled by digitized technological platforms. The concept of such an interactive platform is critical to our theorization of connecting co-creational interactions with how values emerge from resourced capabilities.

Prahalad and Ramaswamy (2004) not only emphasize interactions as the locus of value creation as a co-creation, but that individuals co-construct their own contextualized outcomes of value, through interactions with a network of entities. In the case of the Co-Inform Pilots, this value creation will be offered both in the facilitated interactions and dialogue-spaces generated and in the individual contextualised outcomes that result from interactions with a network of entities (such as policy institutions, sensors, data aggregators and communities of affected citizens). Prahalad and Ramaswamy (2004) proposed a new frame of reference for value creation as co-creation, noting that: “The use of interactions as a basis for co-creation is at the crux of our emerging reality.” Their starting premise (p.15) was that “value is co-created”, with two additional premises of “co-creation experiences are the basis of value”, and “the individual is central to the co-creation experience”. This approach sees value co-creation from the perspective of individuals as experiencing actors, from customers to employees to partners and other stakeholders. Their main thesis is that (p. 14) “the value creation process centres on individuals and their co-creation experiences”. They emphasize both a collaborative creation of value by actors (Prahalad and Ramaswamy, 2000, Prahalad and Ramaswamy, 2002) and simultaneously expanding

the scope of value creation beyond the “product” output to the experience space of individuals (Prahalad & Ramaswamy, 2003). Applied to the context of Co-Inform Pilots, the technical product or data thus ceases to be the central focus of attention, but rather the experiences and interactions are in the spotlight, which in turn strengthen the capabilities and empowerment of the stakeholders.

2. Co-Inform co-creation methodology

In order to overcome the push and pull schism and promote a vibrant, competitive co-creation process with a strong economic impact, it is also important that governments, public administrations and research organizations adopt entrepreneurial approaches. One of the main barriers to open and collaborative innovation is the difficulty of having researchers and public administrators speaking the same language and addressing the issues from a common perspective and with comparable tools and resources.

The concept of co-creation is different from the traditional push and pull approaches, as it implies that different parties actually ‘create’ something together, instead of one part developing something for the other one to use (push-approach) or expressing a clear request or need to the other (pull-approach). When parties are expected to create together, they must be equal partners with similar level of resources, and speak a common language towards a shared goal or value.

From a communication side, this implies that, once defined, innovation priorities and challenges at public- and corporate-driven research level must be translated into concepts that are understandable to those that can contribute to its solution, such as the business sector, creative communities and end-users. It is a new way of driving research, with and for the market, at corporate and public-sector organizations. In the following page we describe the six iterative steps that define the methodology we use at eGovlab, for co-creation and co-design.

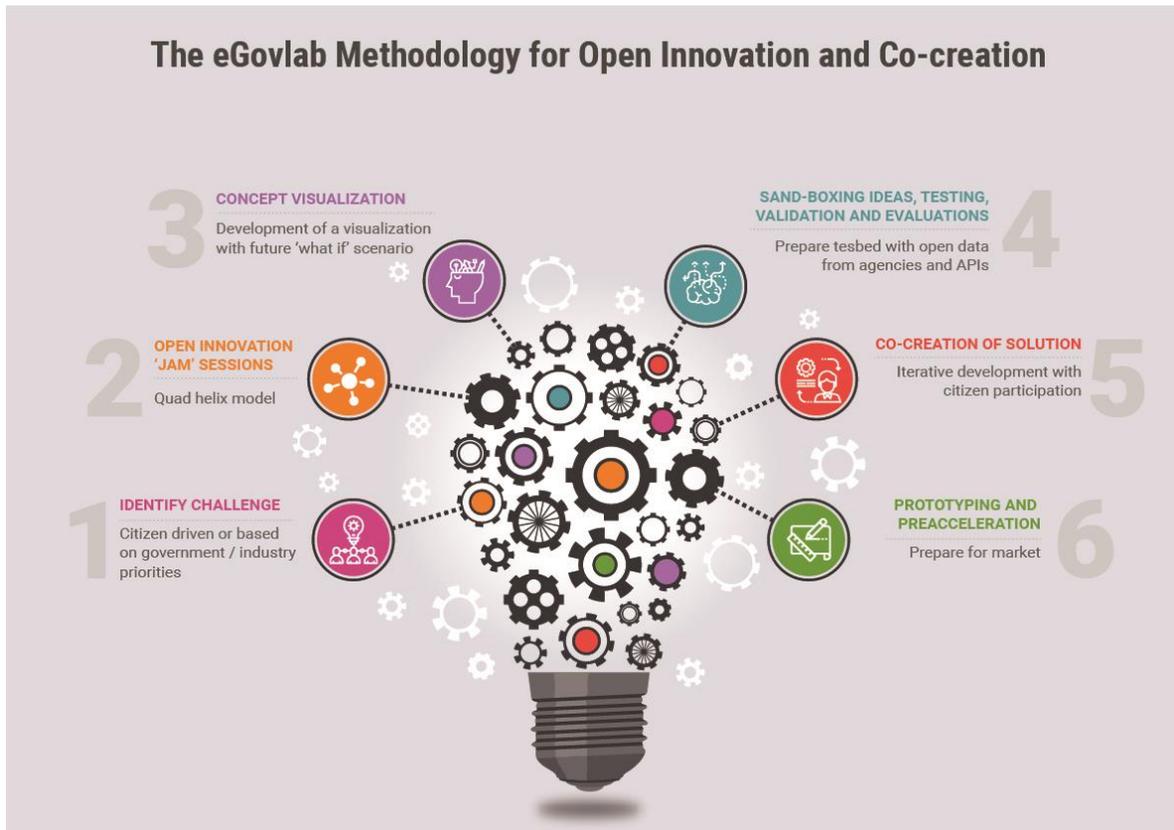


Figure 4. eGovlab Co-Creation Methodology

The first objective implies the creation of open innovation platforms and activities (events, “jam-sessions”, etc.) to interconnect public and research organizations with civil society and businesses and mobilize participation in the identification and/or prioritization of concrete societal goals. It is an essential step for bringing the future co-creation partners together (researchers/technologists and businesses/creators/entrepreneurs), by establishing a common language amongst them.

Once innovation is conceptualized, building from both technology-push and market-pull principles, and is understandable to all shareholders concerned, the co-creative process that will lead to its implementation can start, as long the necessary resources are gathered.

The ideal contexts for this co-creation process to emerge are test-beds. The purpose of a test-bed is to create a shared arena in which digital services, processes, and new ways of working can be developed and tested with user representatives in a real-world context. Hence, a test-bed is an environment in which people and technology are gathered and in which the everyday context stimulates and challenges both research and development since authorities and citizens take active part in the innovation process. It is a platform for experimentation of new development projects that allow rigorous, transparent, and

replicable testing of scientific theories, computational tools, and new technologies. A test bed is therefore active in stimulating to increased innovation with the public sector, the business and with opening up academic research. It is a gathering of public, private partnerships in which researchers, technologists, businesses, authorities and citizens work together with the creation, validation, and test of new services, business ideas, markets and technologies in real-life-contexts.

Quadruple Helix model implementation: Here we refer to the need of all diverse stakeholder groups to be an active part of the innovation process. These are from the Public sector (including government), Private sector (corporate, industry and SME), Academia and Citizen groups – all informing the co-creation and open innovation process in their own way.

The implementation of these objectives converges into a six-steps-methodology that deploys our approach to open, collaborative innovation. We believe that this approach fully captures the complexity of the process and allows for innovation to occur iteratively at every step along the way, contributing to the full achievement of our objectives.

QUADRUPLE HELIX MODEL IMPLEMENTATION



Figure 5. Quadruple Helix Model

To achieve broader value and sustainability of public services, the service lifecycle from planning to delivery to its evolution is deeply ingrained within its ecosystem. Through face-to-face and technological methods, public administrations, citizens (domain experts/contributors), civil society, the applied research community and civic techs are working together to co-create value within an ever-evolving social innovation arena.

The high-level co-creation model below portrays a holistic approach on public value generation based on societal challenges. Understanding the ecosystem (stakeholders) and its inherent competencies is a key element in transforming public service delivery and a key change agent for public administrative reform. The essence of co-creation in the public sector is to transform bureaucratic practice into citizen driven public service provider.

In the above diagram, when we refer to culture it defines the way we contribute and our intrinsic connectivity within the ecosystem. By understanding the different cultures inside the diverse set of contributors, the ecosystem can reshape behaviors, and in turn create a stronger intramural culture that supports the unique objectives of addressing the challenge. Developing a systematic approach of evaluating and familiarizing the cultures, the ecosystem can maximize the potential within the co creation process. By practice we refer to the co-creation as well as societal context of the challenge; its public settings i.e. executive, legislative, judicial, educational and civil society (rules and procedures) and finally the current routines of interaction between actors.

Following from this, structure is key to maintain the motivation and production of the co-creation community, promote interaction and innovation while linking the activities to the objectives. It is the main construct of the ecosystem that promotes value sharing and value acquisition. It includes technology, management, reports, communications (internal and external), media and visualization of situations within the challenge that can be spontaneous or facilitated to recruit new contributors.

Finally, with evolution we refer to the feedback loop. Constant engagement and feedback mechanisms from the stakeholders (that are ever increasing if public service has been taken up) that is fed back to the system for adjustments and enhancements. Furthermore, presented below are the key ingredients driving the process of value co-creation within innovation in the public sector. These include the ability to transform the perception of stakeholders as passive recipients of solutions to equal partners in the design process of policy and societal outcomes. The building of capabilities and a sense of mutual development, along with the blurring of traditional power roles is what characterizes this process.

3. Relevance to Co-Inform Project

3.1 What are we trying to achieve – Thematic and Tasks

Online misinformation has become a disrupting force in recent years and it will continue affecting the public sphere for the foreseeable future. The amplifying effects of social media and, increasingly, of messaging applications too require a multifaceted response to this phenomenon. Misinformation has always existed historically. Every time a novel means of communication was invented, misinformation showed up too: from the printing press to radio. Nevertheless, today due to internet's global reach and the addition of the platforms as third parties, the phenomenon is much more complex.

The erosion of the public's trust towards authorities and media calls for decisive action. In order to rebuild this trust between the actors directly affected, there is a need for them to be brought together. The three stakeholder groups will aim at co-creating policies for managing misinformation, to ensure that such policies benefit all parties involved, and fit their diverse requirements. This is especially necessary given the different ways in which the three groups are affected by misinformation, and the different roles they can play in combating misinformation. Co-Inform aims to study the phenomenon in a multidisciplinary manner using the Co-creation framework presented within this deliverable as an overarching principle for project activities.

Co-creation methodology is thus particularly relevant when it comes to re-establishing the value of authoritative sources. As numerous studies (Lewandowsky et al., 2012 & Nyhan, 2010) have shown the action of debunking false claims has been challenging both because of the sheer number of such claims but also because of the readers' mistrust towards entities providing the corrections.

Policymakers, analysts, fact-checkers and citizens of diverse backgrounds will test the misinformation detection platform designed within our project. Together with our fact-

Misinformation: information that is false, but not intended to cause harm. For example, individuals who don't know a piece of information is false may spread it on social media in an attempt to be helpful.

Disinformation: false information that is deliberately created or disseminated with the express purpose to cause harm. Producers of disinformation typically have political, financial, psychological or social motivations.

Claire Wardle, Wardle, C. & H. Derakshan
(September 27, 2017)

checking partners they will attempt to detect misinforming posts/claims/articles. This will be discussed following co-creation principles. Subsequently, they will provide feedback on the use of this platform as well as provide explanations on why one article (and its source) is considered untrustworthy instead of another and what would be the best way according to them to make an article trustworthy enough. This will also provide critical discussions around how cognitive biases determine how stakeholders select and consume news and media, and how this further exacerbates the challenge of misinformation.

Co-creation here is adding value by making the procedure more democratic (inclusive) instead of just imposing a prescriptive “Minister of Truth” frame. Furthermore, this process aims at increasing news consumers’ critical thinking and media literacy which is the best long-term strategy in countering misinformation. The propagation of the use of closed groups and encrypted messaging services will make it more difficult to check in real-time any claims. This has been recently witnessed in countries such as India or Brazil with dire consequences. The rapid development and decreasing costs of new technologies used for deception such as video and audio manipulation in the near-future, will make it imperative for citizens to acquire the adequate critical skills to adapt to a quickly changing information environment. To sum up the expected outcomes of the project where co-creation will play a leading role will be the following:

Beneficial technology	Creation of simple technological tools aimed at checking the source’s trustworthiness based on public information (i.e. registry) plus users’ feedback on the usefulness of the platform after checking articles. Development of a robust technological platform that is iteratively designed and improved in light of stakeholder feedback.
Contribution to media literacy	Fact-checking partners will be assisting users while using the misinformation detection platform on examining the veracity of articles/claims and behavioral scientists will observe/assess the outcome of this activity. This will improve media literacy and critical thinking skills on the part of citizens, policy makers and also journalists.
Contribution to policy	Outcomes of the project will contribute to misinformation countering recommendations based on participation of policymakers
Targeting anti-immigration rhetoric	Misinformation within migrant communities will be targeted across three pilots providing empirical grounds within which we will test the robustness of our co-created solutions.
Advance research on trust in media	This will enable us to better understand the relationships within our ecosystem’s stakeholders and how misinformation affects trust and integrity within that environment.

Table 1. Expected benefits from Co-Creation Methodology application on Co-Inform

4. Co-Design Methodology

In this segment of the deliverable we define the co-design methodology that will serve as a framework for the project. This method concerns both the internal liaison between work packages and external outreach towards stakeholders in each of the pilot countries. This is to ensure consistency in our methods and better align efforts within and outside of the Co-inform project.

The methodology presented here will be validated in the process of implementation throughout the project duration and transformed into generic guidelines. This means the framework presented here has to be comprehensive enough to support meaningful stakeholder analysis for future initiatives in various geographical contexts, social settings and related to different issues.

Finally, Co-Inform follows an iterative and evolutionary methodology, learning and validating approaches based on the Pilot experiences. Accordingly, the initial design needs to be adaptable and flexible, to give room for update and evolution of the stakeholder analysis in parallel to the project's activities. This requirement also concerns flexibility to incorporate outputs of the other work packages. Many Co-Inform tasks will produce relevant information about and with stakeholders, albeit in different formats. To avoid replication of data collection and analysis efforts, it is essential to create a framework that can draw on these insights for the updated analysis.

4.1 Overview Stakeholder Analysis and Mapping

The term stakeholder, and the concept of “holding a stake”, was originally used to describe investors owning a piece of a business, i.e. holding a financial stake. From a private business perspective, stakeholders are groups without whose support the organization would cease to exist. Over time, the definition has expanded to include parties who are involved in or are affected by a course of action of an organization, who thus hold other types of ‘stakes’ – personal, emotional or in the form of shared re-sources. Modern definitions usually define stakeholders as all persons or groups who “can affect or be affected by the organization's actions, objectives and policies.” This modern understanding recognizes subjective view on an issue. Stakeholders are, to a degree, self-selecting: those who judge themselves to be stakeholders are stakeholders.

But cataloguing stakeholders is not an end by itself. A stakeholder analysis aims to create a decision support tool tailored to the needs of specific managers and decision-makers. Understanding the political and societal forces that might affect a project, program or

organization enables the selection and prioritization of management and communication approaches appropriate and effective for specific target audiences. Searching for actors engaged in similar activities helps avoiding duplication and repeating mistakes, or to suggest possible partnerships and alliances where possible and appropriate.

In the specific context of the Co-Inform project, the objective of this exercise is to provide the basis for co-designing and co-creating misinformation resilient societies. Considering the complexity of this ‘product’, defining stakeholders to involve in the design process, as well as the conditions under which they should be engaged is a theoretical and practical challenge. Stakeholders are not equally powerful and different stakeholders are entitled to different considerations. In some cases, stakeholders might be legally mandated or entitled to be involved. In other cases, the allocation decisions connected to misinformation on social media regarding migration might involve conflicts, and raise questions about justice, fairness, and equity.

Collaborative planning processes transfer competences to informal institutions and actors beyond the nation-state, raising questions of legitimacy of the multi-stakeholder systems that are created or strengthened. Legitimacy derives from accountability, and while our co-creation methodology can be seen as tools to increase the accountability of planning authorities, as a civilian endeavor it has to gain legitimacy itself.

The co-creation activities within the Co-Inform project derive legitimacy, for example, by ensuring the configuration of members represents societal values, or by aiming to create societal benefits that are widely accepted. **These abstract-sounding challenges manifest in daily practical management decisions such as who to invite to co-design workshops.**

In the following page is a schema for identifying and designing our stakeholder engagement strategy across the three Pilots. What it illustrates is the step by step identification, engagement and sustenance of that engagement that we need to design for in each Pilot. The schema also outlines how incentives and barriers influence the update of our products within this project and how misinformation resilient societies can be nurtured in the long run. This schema addresses the need for context mapping early on in the project’s lifecycle.

Answering these challenges, effective stakeholder mapping for Co-Inform has to uncover sufficient information needed to decide:

- WHO
- WHY
- HOW
- WHEN

To engage, for the different social, technical, political and commercial design aspects of the Pilots.

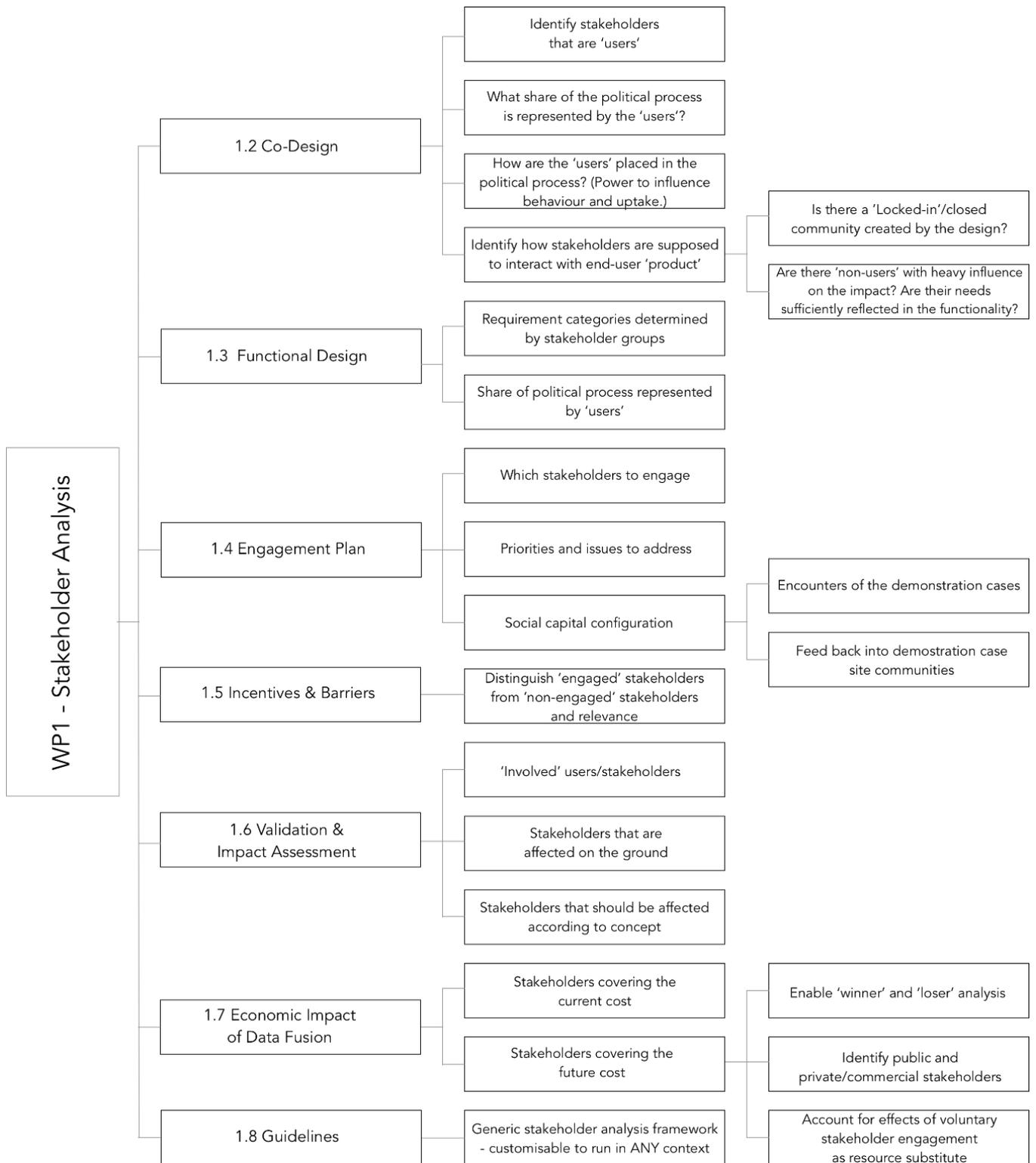


Figure 6. Stakeholder mapping

There will be an initial context analysis carried out within the project that will clarify the outlines of the project thematic area (migration) and why it was chosen. A subsequent baseline survey and co-creation workshop will be designed within WP1 to follow the structure of a PESTEL analysis, exploring political, environmental, social, economic, technical and legal boundaries of the Pilots.

The report will highlight the stand-out aspects discovered in the initial screening, based on the following guiding questions:

Political and legal boundaries: What is the political structure in the project area – how many levels of government are there and how do the various levels affect the issue? What are the defining features, drivers and conflicts of the local political culture? How open is the system to participation and co-creation? Which legislation and other rules and regulations at which levels govern the issue addressed by the Pilot; which legal framework establish rights and limits to citizen participation?

Social/Cultural boundaries: What factors inform the identity of the local population? Is the population homogenous, or are there major ethnic or tribal groups, different languages, or religious, social or cultural subgroups? Is local culture highly autonomous, or do other cities or countries serve role models and trend setters?

Technical boundaries: Are there any specific aspects in the technical infrastructure, access and use of technology that need to be considered in the project design? Are there any particular local preferences for social media networks or popular local online communities?

Economic boundaries: What is the structure of the local economy and how is economic power distributed in the project region? Are there major employers or concentrated industrial clusters, ports or special economic zones inside or outside the project area?

Summary analysis of the baseline screening results will be prepared by each of the Pilot partners within the project, with the guidance and facilitation provided from WP1. The motivation behind this is aimed to establish a baseline understanding of the ‘problem area’, in this case misinformation regarding migration. Also it will determine if the chosen scale for organizing action and collecting data corresponds to the necessary scale and information needed to promote collaboration and find solutions within that pilot context.

In addition, context mapping will also be used as a tool to inform the stakeholder analysis, exploring possible synergies and overlaps in spaces of interest within WP2.

4.2 Who are the Stakeholders?

Participants in the Pilots shall be recruited from the three stakeholder groups of the Co-Inform project:

Citizens

Considering the chosen thematic for the project (migration), it is reasonable to engage a heterogeneous group of citizens, which entails both those who are the main target of xenophobic misinformation, namely those who are more likely to spread it (Narayanan et al., 2018), and those who are being targeted by the secondary effects it, namely those who can be affected by a potential spread of hateful attitudes (Müller & Schwartz, 2018; Sutherland, 2018).

For this reason, the citizens group should take into account the different positions of the population in relation to the phenomenon of misinformation, while representing the actual distribution of the local population. It is therefore important to include native citizens with (i.e., second generation immigrants) and without foreign background, first generation immigrants and newcomers.

In this way, it will be possible to have a sample of interlocutors which is representative of the population of each country involved, and is affected by the phenomenon either because target or object of misinformation. Doing so, the implementation will maintain a high ecological validity, and it will make possible to detangle the different dynamics and outcomes of misinformation in relation to the different segments of the population, making the process meaningful for who is implementing it, but mainly for the participants themselves.

For what concerns the age-group, the citizens involved will be between 18 and 24 years of age. Being composed by digital natives, who are generally more active on social media platforms, this age-group is also more likely to be exposed to misinformation (Marchi, 2012). Furthermore, being this a younger section of the population, the implementation can have a preventive effect, by teaching them how to spot misinformation, and at the same time could have a larger impact due to a “snowball effect” with peers.

Fact-checkers/journalists

As explained in the report by the Reuters Institute for the Study of Journalism, “The Rise of Fact-Checking Sites in Europe”, there are two general models of fact checking: the newsroom model and the NGO model.

For the newsroom model, legacy news media remains the dominant source of fact checking. This has the advantage of resources and audience reach, but with the dependency of

editorial interest and financial support of the parent organization. Examples of the newsroom model include Les Observateurs (France 24), FactCheck (Channel 4 (UK)), Reality Check (BBC), and TheJournal.ie (website-based news organization) (a Co-Inform Associate Partner).

Yet most permanent fact-checking outlets are outside newsrooms. NGO-backed projects are prevalent in Eastern Europe and can be found in Italy and the UK. In contrast to the newsroom model, while NGO-backed projects lack in resources and audience reach, their independence from editorial and business interest have ensured durability. Examples of the NGO model include Istinomer (Serbia), FactCheck Georgia, Pagella Politica (Italy) (a Co-Inform Associate Partner), Full Fact (UK), and FactCheckNI (a Co-Inform Full Partner).

The aforementioned Reuters report also lists three types of fact-checking mission and methods: (1) reporters; (2) reformers; and (3) experts.

Seventy-three percent of those surveyed for the report responded that they “agree strongly”/“agree very strongly” that they see their fact-checking work “as journalists”. A third described the goals of their fact-checking work “to inform the public” while a quarter responded “holding politicians accountable”. Within the journalist response, some described their work as data journalism (data-driven reporting), while others associated with investigative reporting (e.g. using freedom-of-information requests to reveal official data). Also, some fact-checking journalists saw themselves as distinct from mainstream news media, particularly where the latter is divided along partisan lines.

Forty percent responded that they are “activists”, where their fact-checking work is party of an agenda and/or political reform. This is seen particularly in fact-checking projects that are NGO-backed and part of democratic institution building and civic reform movements. This can be evidenced in the Balkans and former Soviet Union states. It should be noted, however, that in order to attain verification as a member of the International Fact-Checking Network, an organization has to demonstrate scope and nonpartisanship. In addition, the funding for such explicit agenda-driven fact-checking projects - from sources such as the National Endowment for Democracy, US Aid, and Open Society Foundations - has provoked political backlash in some countries.

Forty percent of organizations agreed strongly with the statement that they are “policy experts”. FactCheck Georgia, for example, calls itself a “non-partisan, non-governmental policy watchdog and think tank”. Pagella Politica avoids the labels “journalist” and “activist”, preferring “researchers” or “consultants”; Full Fact has a similar approach. The Conversation uses academics across universities as experts to edit and review articles.

In summary, while fact-checking output from legacy media organizations is undeniably journalist driven and reaches the largest audiences, it is not persistent (usually peaks during

election cycles) and is not deemed as independent of editorial and business interest biases. NGO-backed outlets are operationally independent but many lack adequate resources for audience impact. Also, some governments accuse agenda-driven fact-checking work as a threat to societal stability. Finally, some fact-checking projects position themselves more as policy research/think-tank exercises, utilizing experts to edit and develop topics. In a sentence, all journalists should be fact checkers, but not all fact checkers are journalists.

Policy makers and analysts

Many policy-makers are struggling to understand new forms of participatory governance in the midst of technological changes. Advances in information and communication technologies (ICTs), and in particular social media, continue to have an impact on the ways that policy-makers and citizens engage with each other throughout the policy-making process. Developments in the areas of opening government data, advanced analytics, visualization, simulation, and gaming, and ubiquitous citizen access using mobile and personalized applications is shaping the interactions between policy-makers and citizens. Yet the impact of these developments on the policy-makers is unclear.

Policy-making on the other hand, as an activity, is a complex interactive process, having many iterations, involving and impacting many stakeholders, and addressing intractable problems from a wide variety of topics (Birkland, 2011). These processes seldom involve only one decision maker or stakeholder, but rather a complex team of players who bring diverse perspectives, expertise and mandates to the table. Within the context of migration policy, there are several stakeholders within the policy domain that we will consider. These will range from actual decision makers in migration policy, to analysts, support staff, policy researchers and experts embedded within the governance bodies of each of the pilot countries. The project will also ensure the focus on policy experts from a local municipal level to regional, national and European level of governance.

4.3 Stakeholder engagement strategy

Stakeholder Mapping

The first step of our co-creation methodology will entail the detailed mapping of our stakeholder groups within this project. They will be mapped according to thematic (migration), region (Sweden, Greece, Austria) and according to their role and scope of engagement within the project. Below is a holistic framework via which this mapping is to take place, where we identify and categorize different kinds of stakeholders that we hope to engage with over the lifespan of the project. Some of these will come to constitute the core stakeholder group, which will in turn be comprised of community members and expert advisers. Others will be part of the enabling environment, where in we will invite regulatory entities that deal with misinformation from a legal and technical perspective; allies and umbrella movements, as well as a separate category for Media. In this latter group we will invite and engage with member of traditional media, social media and fact checking organizations. Finally, stakeholders will also be mapped from the market segment, who will be identified as the ones that will assist with the uptake of the platforms and technologies designed within the project. These will bring representatives from technical groups as well as shareholders, potential buyers and customers.

It is important to note that the membership of each of these groups and categories is fluid and stakeholders will migrate from one to another over the course of the project. Furthermore, over the three years of the project, there will be transitions and movements of members from peripheral to core group, and vice versa. While we will design incentives and motivations to sustain engagement, there will be those that are momentarily part of this ecosystem and new members will take their place. Thus it will be imperative to design within our methodology, a robust way to capture and archive knowledge within the project to allow for a seamless flow.

The mapping of stakeholders will be undertaken internally by each Pilot team and also with conjunction of the WP1 team to ensure consistency of methods. Several iterations of the mapping will be attempted in each case to arrive at a comprehensive selection of stakeholders. Once the ecosystem has been mapped satisfactorily, invitations will be sent out and planning commenced for the first interaction moment event. These invitations can be sent using traditional methods (phone, email, web invites) along with specially crafted invitations that will be sent to our networks of associations, organizations and policy making institutions. The latter will be more formal in nature and all invitations will need to be preapproved and designed in a template approved by the WP1 team, to ensure consistency of communication and branding within the project.



Figure 7. Wheel of Stakeholder Engagement

4.4 Workshop (Interaction moments) Design

Co-creation workshops or Interaction Moments will ideally be half day to full day events that take place at least three to five times in each of the pilot locations, over the lifespan of the project. The recommended number of participants would be 15-20 in each of the sessions. WP1 will provide training and materials on how to design, conduct and document the outcomes emerging from these workshops. While each of the pilot case contexts will be different, the methods used to recruit, engage and document findings will be consistent with the project methodology. The phases of the interaction moments will follow an evolutionary path from baseline contextualization, to problem definition, needs refinement and gathering to testing prototypes generated via the project teams. This follows the phases defined within the eGovlab Methodology on Co-Creation and Open Innovation, where via iterative feedback loops, solutions will be co-created with the identified stakeholder community.

Below is a description of a selection of design templates that describe activities that can be chosen within the co-creation workshops, depending on the contextual needs of each pilot. This is an indicative list and not an exhaustive one (please refer to the Appendix for more options and tools). Each Pilot team will, together with WP1, select the necessary combination of exercises to design a co-creation workshop in line with the stakeholders attending, the thematic under review and the contextual needs of the country.

Exercise 1: Seeing the System

Within this exercise groups look for patterns within and across timelines. "Report backs" allows for some processing of the nature of their joint perception of the focal problem in history and of the expertise and experience each brings to the table. Having surfaced their own concerns about the focal problem, it is time to engage some of the data collected from other stakeholders. This is an intensive exercise. The participants are presented with semi-processed video and/or transcriptions from interviews. The extracts are almost "raw" data, and should allow participants to get a clear sense of the personal thoughts and views of different stakeholders outside the context of their Pilot case.

Ideally, the data will be themed sufficiently to allow for different groups of participants to work on different theme areas. They then work to surface patterns. Facilitators will work to create synthesis across the patterns identified. In this exercise, participants are asked to identify the variables that determine how the current problem domain is being managed. They should be variables over which they feel they have some control or capacity to influence. These can be described as dials – things that can be increased or decreased to secure certain outcomes in the problem domain. These may be clustered into different subsets if the participants are engaged in quite different parts of the system.

Questions can help them brainstorm ideas, asking things like "what has driven change in the past?" and "what words would you select to describe what Migration means for you?" "How would you describe the health of the system?" This is a key part of the "unfreezing" of the first stage of the workshop. As the number of participants in the workshop is relatively restricted, and as they will, in general be "insiders", deeply engaged in the content of the focal problem domain, we need to bring other voices into the room.

This exercise lets participants "see" the system they are working on, while at the same time identifying it as manageable, as being created or shaped by human activity. This part is also referred to as Landscape Mapping where the terrain of the problem/issue at hand is charted out collectively by the co-creators and co-designers at the workshop. During this exercise, it is important for participants to be grounded in the realities of the issue on which the pilot is focused. If time allows, site visits (Learning Journeys) relevant to the issue are a powerful option. Wherever possible it should be an immersive experience.

Migrant: IOM defines a migrant as any person who is moving or has moved across an international border or within a State away from his/her habitual place of residence, regardless of (1) the person's legal status; (2) whether the movement is voluntary or involuntary; (3) what the causes for the movement are; or (4) what the length of the stay is. IOM concerns itself with migrants and migration-related issues and, in agreement with relevant States, with migrants who are in need of international migration services.

International Organization for Migration, Key Migration Terms

Exercise 2: Spotting the Paradox

The idea here is to characterize the current system and an ideal system. This helps surface participants' frustrations with the current system and hopes for a different system. This "grounding" can take place before participants begin developing their descriptions, or afterwards as a "test" of the descriptions once they have been written. In the case of the latter, time would need to be given for revisions. Having characterized the current system, attention turns 180 degrees as participants attempt to write a similar description for an alternative or ideal system. In many instances, this description will be almost a direct opposite of the current system. Suggesting this can provide a starting point for participants.

We now invite participants to reflect on the identity of the ideal system(s) and develop some minimum specifications ("min specs") for that system. Min Specs are expressed as a set of simple rules or principles, and they encourage participants to think of their ideal system in a coherent way without being overly specific. It's important to distinguish between principles (openness, accessibility, transparency) and practices that are an expression of that principle (non-proprietary software, privacy by design).

Imagining ideal futures is an energizing experience, and this exercise taps into that energy. It can be helpful to give each description – current system and ideal - an identity, which will become an efficient shorthand for the group. This begins as an individual exercise. Participants are introduced to the notion of shadow or nemesis. They should draw columns on a piece of paper. They are then asked to describe, as emotionally as possible, the characteristics of someone who "makes them see red." They should create a list of descriptive words. (E.g., pedantic, aggressive, insensitive, repressed). In the next column they write the word that is the antonym of the words they wrote in column 1. (E.g., if they wrote "pedantic" as one quality in the first column they might write "easy-going" in the second). This second column is generally a good description of themselves, or a reflection of their ideal self. In the third column they write words that they feel the person they are describing (their "nemesis") would use to describe these qualities. (E.g. "pedantic" might be described as "thorough" or (detail oriented).

Participants should then reflect on the situations in which the values/character traits might be particularly useful. This is a preparatory exercise or "softening up" exercise to allow people to experience the importance of paradoxes – it allows participants to recognize the inherent tendency to see the world in black and white terms, where everything is either good or bad.

Exercise 3: Horns of Dilemma

There should be a feeling of strong identification with both the current and the ideal descriptions. During this transition, we will move to a very individual exercise – the shadow exercise, to prepare for recognizing the enduring tension between the dominant (current) and ideal system. These define two horns of the dilemma - two attractors which are in tension and which define innovation space.

Participants take their description of the dominant system and turn it into a positive statement. The revised statement and original statement of the ideal system are then seen as alternatives and will be placed on the "horns of the dilemma." It can be useful to turn the paradoxes into questions that take the form "How can we continue to have (value(s) from dominant system) while at the same time having (value(s) from ideal system)?"

The Horns of the Dilemma exercise allows participants to identify criteria for assessing an innovation's potential for impact. In the case of the Co-Inform Project this would apply to the innovation potential or impact of fact checking tools and technical platforms that would allow for misinformation resilience. Innovations that do not reconcile these paradoxes are less likely to have broad impact as they will experience significant resistance on the part of the stakeholders if they are too grounded in the ideal - or limited novelty - if they are grounded in current realities.

In this exercise we will introduce the concept of the learning journey as a way to understand and personalize the goal of social innovation (transformation of circumstances for a particular set of individuals). There are a variety of ways for the participants to delve more deeply at this moment into the personal reality of those in the system who interact with it, and the opportunities and constraints they face around change.

Depending on the issue and the location, we will either bring participants into several settings where they can interview individuals involved in transactions affecting the vulnerable individuals. Using the data collected from the Learning Journeys, participants will create a map of the experience of those most affected by the problem domain. Participants should quickly identify the steps in the journey. (e.g., for misinformation, this might be the value chain – from creation of ‘facts’ to their spread and consumption, to when they are embedded in everyday discourse. Participants should add detail as necessary). We then search for points in the journey where the experience falls outside of what is tolerable for the target individuals.

This exercise should be visceral / immersive experience for participants, ideally taking them out of the workshop setting. It should provide them with a different perspective on the challenge and ground them in the realities of it. This mapping exercise allows participants to pinpoint the most promising points of intervention (‘leverage points’), at each scale in the system. Additionally, participants often find it informative to hear the particular concerns of other stakeholders along the journey.

Exercise 4: Constraints & Limits of the System

For challenges associated with individuals, e.g., cognitive bias, participants should think about moments where the system seems incoherent – it doesn’t make sense, is confusing, it seems impossible to manage etc.). Not all problems will be appropriate for this exercise. Ideally, to benefit from the journey analysis there needs to be a target population, e.g. youth at risk, the homeless, migrants, individuals suffering from chronic disease, unemployed youth etc. It can be done with a system – say a sustainable urban environment, but it is still better to identify a group of individuals for whom innovation will produce a discernible/measurable change of experience. The interactions that trigger a variance will then be analyzed. Who are the actors/stakeholders involved? Specific roles are best. (“Teacher” rather than “school”). Participants should then describe what constrains or drives the particular behavior of each stakeholder. These drivers and constraints should then be traced up through the system – they should keep asking “why”. Finally, participants should discuss potential intervention points (scales) at which an intervention could have most impact in tipping the system. For example, should they intervene at the school-level? A school board? A ministry of education? Or cultural attitudes to education, learning, children etc.?

Note that the social innovation theory is rooted in complexity theory. This means that the understanding of the system and the innovation space is an emergent process. We have outlined the above sequence as a set of interlocking steps/exercises, designed with the intent of moving participants through broadening their understanding of the system, identifying its impact on the target population, and identifying innovation space and intervention scale. However, it is possible that participants will choose to focus on different aspects of the system, or that some will move very quickly to identify ideal interventions where others will need to revisit the system dynamics numerous times. Facilitators need to be prepared to respond to different emergent threads.

4.5 Sustaining stakeholder engagement – What are the incentives and barriers in place?

Different types of people have different motivations and are drawn to various co-creation activities. Although several inventories to assess volunteering motivations have been developed (e.g. Clary et al., 1998; Reeder, Davison, Gipson, & Hesson McInnis, 2001), the most well-known framework for assessing volunteer motives is the Volunteer Functions Inventory, developed by Clary et al. (1998). They differentiated among six motives for volunteering: Values – need to act in an altruistic way and help others; Understanding – need to have new learning experiences and the opportunity to practice new knowledge, skills and abilities; Social – need to be with friends or engage in an activity that others consider important; Career – need to build career related skills and abilities which may serve to enhance one’s career; Protective – need to reduce feelings of guilt over being more fortunate than others; and Enhancement – need for personal growth and development.

It is important to satisfy and enhance the personal values-based motivation (Wright et al, 2015). However, although research states that the value-based motivation tends to be most salient, not all volunteers are primarily motivated by it. Instead, it might be worthwhile for a Pilot Case to develop a ‘recruitment niche’ (mapping the profile of ‘ideal’ participants) (Nichols & King, 1999; King & Lindsay, 1999) and tailor messages that resonate with that niche. In the process of recruiting, a major pitfall can be the mismanagement of expectations. If expectations do not align with what actually happens, also during and after the activity, volunteers might get disappointed – even if the overall experience was not bad. Also, during recruitment, it is good to be aware of the incentives that can be offered and/or of the barriers can be broken down.

The table below is outlining some of these potential incentives and barriers:

Incentives to offer	Barriers to break down
Access to the data	Time/Resources
Access to the community (improving service delivery)	Validity of the data
Doing something for the greater good	Clarity of the objectives, method, etc.
Gain knowledge and skills	Need for a critical mass
Increase visibility of the organization	Sustainability after the project
Political impact	

Table 2. Incentives and Barriers on stakeholder engagement

The above is an indicative list that can be edited as the Co-Inform project evolves. Further crucial factors to keep in mind when sustaining engagement within the Pilots are:

Welcome

The welcome to the project and pilot group is important. It should be clear which activities should be undertaken when new members join the group; for example, how to welcome them and how to integrate them in the group. ‘Word of mouth’ is powerful; if anything, the experience of joining should be fun – and new members need to feel heard and respected. Research on volunteer retention by Waikayi (2012), showed that the more the volunteers felt they were able to share their experiences and opinions during their training, the greater their sense of community whilst volunteering.

Activity

When it comes to monitoring and observing activities, the most important condition is that instructions should be clear: the added value of what they are doing needs to be comprehensible and feedback on their engagement needs to be clear. Also, while the Co-Inform project may not satisfy all motivations of volunteers, by integrating a variety of activities, it has a better chance of appealing to many people. To keep the volunteers’ motivation and interest assigning appropriate tasks is another essential issue. In a study by Eisner et al (SSIR, 2009) only 53 percent of volunteers who did “general labor” activities continued volunteering the following year. By contrast, 74 percent of volunteers performing professional management activities continued volunteering.

Studies show that intrinsic motivation does not necessarily enhance the quality of participation (Nov et al, 2014). This might encourage the development of more enjoyable, game-like, participation mechanisms. Similarly, mechanisms such as social network features

create and emphasize social influences, linking them to the quality of one's contributions, so that norm-oriented motives become positively linked to contribution quality.

Retention

One might think recruitment is the main objective in this stage of the project; retention of current members, however, is at least as important. The current members of the core group, those who participated in the co-design, are the most valuable assets for the Pilot communities. These people are invested in the idea, are willing to work for it and thereby are much more attractive to join for others. Also an engagement strategy without a retention plan basically means a lot of work without fostering its results. There is no use in recruiting community members on one side if the already recruited members on the other side decide to leave at the same pace.

According to the defined and desired activities in each Pilot, retention will be based on different motives and incentives. However, from literature there are some generic lessons to be learned. Individuals may decide to volunteer for several reasons and these motivations may also change over time, therefore it is important to keep monitoring the satisfaction of volunteers. Studies show that the main reasons for volunteers to leave their volunteering job are that the organization fails to (1) Recognize Volunteers' Contributions, to (2) Train and Invest in Volunteers and Staff and / or to (3) Provide Strong Leadership (Eisner et al (SSIR) 2009). Related to that two things have been proven to be paramount for the retention of volunteers: Training and Social Events.

Training

Research shows that training facilitates the commitment and/or retention of volunteers. Cuskelly et al. (2006) also examined the joint effect of training and motives; they found that intentions to remain volunteering for the non-profit organization are only moderately affected by the value motive; training and development play a far stronger role than the value motive in influencing volunteer retention. Co-Inform should foster both online and offline training – offline also provides the opportunity to socialize (see next paragraph) so would be recommended in terms of retention. Online training in fact-checking or misinformation technological platforms is however less time consuming, which is also an important consideration for many. A diverse approach might be most suitable.

Social Events

According to several studies, volunteers are mostly motivated by their fellow volunteers. Social opportunities in different forms and varieties are often identified as a significant predictor of ongoing volunteer commitment - along with project organization (the opportunity to work for a well-run project that uses volunteers' time efficiently) (Domroese et al. 2017). One of the best ways that non-profits can engage volunteers is to create

experiences that develop attachments between the volunteer and the organization. For example, with field days, end-of-season celebrations and presentations. A sensible relation with the topic of the pilot or the associated activities prevents these social events from becoming awkward or forced – incorporating a social dimension onto a pilot related event can be a good idea, as long as the emphasis is placed on the sustained participation of the volunteers. Data collection campaigns are not the same; they can create a community feeling but are not ideal for retention, rather for recruitment of new members.

5. Pilot Context

5.1 An introduction to the Pilots

The Pilots are designed to provide a test-bed for the policies, tools and platforms that are being developed in the Co-Inform project.

They provide the specificities and complexities of the real-world context in Sweden, Austria and Greece, against which the outcomes of the project can be tested.

The pilots also provide much needed “voice” from diverse stakeholder groups via their feedback on usability, functionality, methodology, approach, of project outcomes, as developed within WP2, WP3 and WP4.

Below we present a brief summary of the **context of migration** in each of the Pilot countries within the project, as a way of setting up the baseline enquiry and detailed manual that will follow in D1.2. Co-Inform can help empowering citizens, fact-checkers and policy-makers with co-created socio-technical solutions, to increase resilience to misinformation and to generate more informed behaviors and policies.

The planned pilots will try to map the views and needs of relevant stakeholders and engage them in arriving at a co-created solution to increase resilience to misinformation.

Sweden

Sweden has experienced immigration since the middle ages. However, the largest wave of immigration was registered during 2015, when around 163 thousand immigrants sought asylum in the country (the highest number in Europe considering the country population size). Most of the asylum seekers were Syrians, Iraqis, Afghans and unaccompanied minors fleeing the war and poverty in their respective countries. The increase of arrivals to the country, challenged the distribution of the funding, housing and social services. Furthermore, it brought the issue of integration and funding to the forefront of the political agenda and public discourse. In order to accommodate those who were already in the country, the government tightened the border-control policies and introduced a new legislation that made it harder for asylum seekers to obtain a residence permit. As a result, for these actions, the numbers of asylum seekers dropped markedly to rates below expected and reached 50 thousand in 2017.

The immigration phenomenon received extensive media coverage, and dominated all international news about Sweden, with some news portals dubbing it the “refugee crisis”. Some media outlets claimed that the immigration caused economic problems and an increase in crime and rape. The coverage reached a peak when Donald Trump said at an election rally “You look at what’s happening last night in Sweden — Sweden — who would believe this? Sweden, they took in large numbers, they are having problems like they never thought possible”. Contrary to this narrative, and according to the official police numbers, crime did not rise during this period, and official studies did not conclude that migrants had contributed to the problem. Furthermore, a recent Bloomberg report concluded that the immigrants have helped boost the Swedish economy bringing it among the highest growing economies in Europe, and faster than the euro zone by about 2 percent, beating all estimates.

Although the flow of migrants has sharply decreased, and the economy is beating expectations compared to other European countries, the migration-related rumors and misinformation continue to be a considerable problem in Sweden. At the “People and Defense” conference in 2018, the Swedish prime minister said that there had been several Russian operations to influence public opinion. The Swedish Defense Research Agency found that automated bots were sharing misinforming websites and twitter links to untrusted news sites.

A [recent study by Oxford University](#) found that the ratio of fake to professional news sites on twitter is the highest in Sweden across all Europe, for each two links, there was a site shared, which spread misinformation. The researchers concluded that the websites were deliberately spreading misinformation, to mislead the public about the economy, culture, and politics. The migrants issue was further exploited by political parties wishing to capitalize on the public fear and increase their representation in the parliament, and it paid

off. The far right party Swedish Democrats gained the most seats in history in the 2018 national elections, by spreading such propaganda.

There are many reasons misinformation spreads fast in Sweden. The Swedish media system is fundamentally vulnerable; this might be due to the commercialization of the industry, which led to a financially driven, fragmented ecosystem. Another reason is the rapid pace of innovation in the field that led to a great deal of decentralization of news publishing to the level of private citizens, who can easily publish to a large audience with internet penetration as high as 93%.

Several efforts were implemented to counter this trend, besides the official government awareness and later involvement, and civil society initiatives were launched in collaboration with national and international media organizations such as East Stratcom Task Force, as well as fact checking websites such as Faktiskt. Efforts were made to debunk information, raise awareness and strengthen the resilience of the society.

Two notable experiments are of relevance to the context of the Co-Inform project.

The first is a Google News Lab funded project to monitor the spread of misinformation about the Swedish elections in real-time. Google gathered journalists, students, media entrepreneurs and academics from Finland, USA, India, and Sweden in a single place in the dockyard of Hammarby in central Stockholm. The main aim was to spot misinformation, monitor the sources and do fact checking in the real time followed by a daily report. The whole workflow was created by the participants.

The other experiment was at the Municipality Botkyrka to study the rumors that may hinder the progress towards integration within a multicultural place. The municipality of Botkyrka conducted an internet survey about rumors that target the residents of the municipality. Respondents confirmed the idea that the rumors problem exist in the municipality, and they have described in details four main themes. The most prominent was criminality that was claimed to be prevalent at some parts of the municipality, rumors that immigrants are contributing to the insecurity and criminality of the area, and lastly that the inhabitants of the region are poor and are reliant on social security. Having identified the themes of the rumors, the municipality organized gatherings “cafés”. Each cafe worked on a specific rumor theme in a public space, for that they chose the library and gathered 20-30 citizens. The cafés encouraged people to engage in dialogue, converse about the uncomfortable topics and suggest solutions and future refinements. The importance of Botkyrka experiment is that it confirmed the prevalence of the problem, engaged citizen to address the issue and underscored the negative impact of rumors.

The challenge of misinformation in Sweden has never been more intense and the need for innovative solutions is substantial.

The planned pilots will help engage the stakeholders in a co-creation process to understand the mechanisms of information spread, influence activities, and techniques as well as suggest solutions that help counter the phenomenon of misinformation and increase the society's resilience.

Greece

Between 2016 and 2018, over 200,000 refugees and migrants arrived in Greece, the majority of whom were from Syria, Afghanistan or Iraq, and over 35% of whom were children. While exact data are not readily available, around 60,000 refugees remained in Greece. Most of them were hosted in over 43 sites throughout mainland Greece while around 14,000 persons were residing in the Greek islands.

Whilst the transient nature of the population movements meant that the vast majority of refugees and migrants aimed at continuing their journey onwards, staying in Greece only for a limited period of time, the situation changed considerably in March 2016.

Since the progressive establishment of border entry restrictions between the Former Yugoslav Republic of Macedonia and Greece, resulting in an effective closure of the Western Balkans route, as well as the EU-Turkey agreement which came into effect on March 2016, only a very small number of people were able to continue elsewhere from Greece.

The response focus thus changed from targeting people on the move, to helping a more stable population staying in an urban context and being hosted in emergency sites or existing buildings. The international community as well as the Greek authorities were also increasingly waking up to the fact that since many of the refugees were here to stay, effort must be put into integration.

This is challenging in a country suffering from a financial crisis since 2010 that has impacted the local job market severely. There is relatively little or sparse interaction between the migrant and Greek communities, partly because of a lack of shared space and joint activities where they would get to meet up and partly due to language and other factors.

UNHCR Refugee definition: Article 1 of the 1951 Refugee Convention defines a refugee as a person who is outside his/her country of nationality or habitual residence; has a well-founded fear of persecution because of his/her race, religion, nationality, membership in a particular social group or political opinion; and is unable or unwilling to avail himself/herself of the protection of that country, or to return there, for fear of persecution.

UNHCR on the 1951 Refugee Convention

These conditions create a fertile environment for the spread of misinformation between and within these population groups. The internet and social media addresses the issue of limited foreign-language news sources for immigrants and refugees in the country. But in many cases, they present a whole new set of issues including the spread of false information, both intentionally and unintentionally.

Misinformation centered on immigrants, spikes during periods of increased flows and intense media coverage of migration issues. Common topics include supposed criminal acts carried out by migrants, migrants who take advantage of social benefits and the idea of a migrant invasion. Misinformation even spreads between countries, often changed or adapted to fit a local context or to feed into the rhetoric of various local political groups. The impetus being to associate these groups with violent behavior and some kind of ingratitude for the "social benefits" they may enjoy.

Interestingly, social media and the internet have not replaced word-of-mouth. Instead, it can amplify it, spreading misinformation through communities even quicker. This was demonstrated numerous times during the operation of the large camp at Idomeni, where false information on the opening or closing of border passages would cause large population movements.

Migrants and refugees seeking accommodation for mid to long term settlement in Greece face considerable integration pressures that are compounded by misinformation throughout traditional, new and social media. Similarly, educational provision has proven to be difficult and has led to ad-hoc solutions that in many cases exclude migrants and refugees from the national educational system.

The Greek Pilot thus would turn its focus on the housing and educational services provided by national and international private and public entities including "Solidarity Now", "UNHCR" in major cities of Greece such as Athens and Thessaloniki. Provision of basic accommodation for migrant and refugee groups is seen by those designing integration policy in Greece to also provide psychological and legal counseling, case management, information and educational activities. The Pilot will also look at the Code + Create project by the Open Technologies Alliance, an open educational resource-based effort to provide basic digital and technology skills to mixed groups of refugees, migrants and Greek youth. The Greek Co-Inform pilots will focus on the specific strategies employed by stakeholders to combat misinformation issues in housing and educational provision by looking into local conflicts, possible biases of national media and entrenched attitudes in relevant population groups.

Austria

Austria with a population of 8,822,267 residents (as of 1 January 2018), includes 1,395,880 foreign citizens (15.8% of total population). In 2017, an average of 1,970 million people with migration background lived in Austria, constituting is 22.8% of the entire population. At present the Austrian government has in place a far right party in power, with strict anti-immigration policies.

The Austrian Pilot will turn its focus on the Austrian Limited Profit Housing Sector (LPHS) which is a key pillar of the Austrian policy. The sector targets social groups of up to higher border of the middle income families and is regarded not as a sort of social housing, like in other countries, but as an instrument of political stability and growth while providing affordable housing to everybody. The sector is also characterized by a high share of migrants' households.

Limited-Profit Housing Sector:

The oldest housing associations in Austria were founded around the turn of the 19th/20th century. Since then the associations have been responsible for the construction of more than 840.000 dwellings. Today their stock represents about a fifth of the total Austrian housing stock and about 40 percent of multi-family housing. The majority of this stock has been financed with assistance of public funds: as the responsibility for public funding lies at the nine federal provinces the respective local authorities are one of the most important partners for limited-profit housing in Austria

Austrian Federation of Limited-Profit Housing Associations (GBV)

Diverse ethnic backgrounds backed by information provided by media, also including misinformation, sometimes leads to social conflicts. The sources of information used by inhabitants of LPHS are also diverse, from traditional media, like national and local newspapers or TV, to new media including different digital channels and social media. LPHS has several years of experience of dealing with conflicts among households, which are also based on perceptions of migrants. Therefore, representatives of the sector accumulated significant expertise on social cohesion and integration of migrants. The stakeholders in the LPHS sector are also political stakeholders and are close to the government of Vienna as well as to several national parties.

Within the Austrian context some LPHS have already started with implementation of digital methods to deal with social conflicts, like the digital blackboards, while providing new tools to deal with impacts of digital information.

This one direct outcome of the Austrian Pilot might be to provide assessment of the existing initiatives and recommendations on their further improvement.

6. Legal and Ethical section

6.1 Ethical guidelines on engaging vulnerable and marginalized segments of society in research

Vulnerability in research setting refers to disadvantaged segments of society or to impaired participants who may be vulnerable to coercion or influence. The vulnerability encompasses physical disabilities, psychological, cultural or political situations that may jeopardize participants' autonomy or voluntariness. Therefore, these subgroups require special considerations and augmented safeguards. Vulnerability is also situational and contextual; as such the vulnerable group will be different from one Pilot to another, and will also vary according to the invited participants and the objectives of the setting. For example, the definition of vulnerable participants in the Austrian pilot which is focused on the housing sector is different from the Swedish pilot that will focus on immigration. It is very important to be alert to the fluid nature of stakeholders and the changing nature of vulnerable groups.

The General Data Protection Regulation (GDPR) defines a special category of sensitive personal data that require specific safeguards and consideration (article 9).

These data include information about personal matters such as:

- Race, genetics and ethnicity
- Political views and orientation
- Religion
- Trade union membership
- Biometric data
- Information about Health
- Sexual life, or sexual orientation

Processing these kind of data might compromise a person's rights, freedom or cause negative consequences if handled or used inappropriately. Consequently, when such data are needed, an explicit consent will be obtained from participants for collecting and otherwise processing their personal data. Caution will be exercised so that the safety, well-being, autonomy of the participants is preserved and maintained throughout the participation as well as to prevent any potential negative impact for the participants.

This sensitive information will receive ancillary protection measures and utmost safeguards regarding recording, storage, handling and reporting. Participants' identifying information will be immediately anonymized or encrypted and stored in secure space.

The confidentiality and safety of participants as well as the quality of safeguarding the data will be continuously monitored to comply with the legal requirements following from GDPR and associated guidelines as well as best practices and project data handling guidelines highlighted in the Co-Inform Project deliverable D7.1 Data Management Plan.

6.2 Data collection, storage and processing requirements

All data gathering from individuals will require (explicit) informed consent of the participants who engage in the project. Informed consent requests will consist of an information letter and a consent form. This will state among other aspects the specific causes our project activities, guarantees of no harm or disclosure of sensitive information, how the data will be handled, safely stored, and shared. The request will also inform individuals of their right to withdraw, to have data updated or removed, and the project's policies on how these rights are managed.

All personal data will be made anonymous as soon as possible, where all identifying information will be masked i.e. removed so that no longer defined as personal. If data cannot be made anonymous, it will be pseudonymized as much as possible and stored for a maximum of the partner's archiving rules within the institution.

Sensitive personal data should be encrypted or password protected and stored at the dedicated secure cloud at the Department of Computer and Systems Sciences (DSV), and only research team members have access to the data. Data transfer, exchange or handling will only occur through secure channels. At the end of the project, if the data has been anonymized, the data set will be stored in an open repository. All personal data that will no longer be used for research purposes will be deleted as soon as possible.

In the case of personal data collected in physical form (e.g. on paper), it shall be stored in a restricted access area (e.g. locked drawer) where only designated staff have access to. When the data has been digitized, the physical copies will have to be removed. Continuous monitoring that the data are handled following best ethical practices, complying with the legal requirements, GDPR guidelines and project data handling guidelines (please refer to Co-Inform Project deliverable D7.1 Data Management Plan).

6.3 Risk analysis and management plan

The benefits of a project using Pilots has the potential to greatly outweigh any risks to participants associated with the research process.

Participants in the co-creation workshops as well as in the Pilots will be over 18 and, among several safeguards, provided with detailed informed consent forms.

Nevertheless, some ethical risks need to be taken into consideration:

1. The principle of proportionality during research needs to be respected. Therefore, researchers only need to collect data that is necessary for the research in question and proportional to the research topic. A risk here is that non-essential data may be collected as the process widens and new questions and hypotheses arise (as it often happens during academic research). These questions cannot always be predicted beforehand but safety checks have been established such as a code of conduct for researchers and a protocol that is to be strictly followed. Another risk that needs to be considered concerns any risk for misuse of information during research related to the pervasive/omnipresent nature of social media. An example could be the online sharing of material by one of the participants or the researchers (which is highly unlikely but possible) that should have not been shared publicly. Again in this case the consortium's experienced researchers will be able to anticipate such unfortunate events through a code of conduct based on the specific activities conducted during the workshops/pilots.
2. There is a risk of access to the data by unauthorized individuals or malicious hackers. Since that risk is serious, all sensitive and personal data will be stored, transferred and handled in encrypted form. This will add a layer of security that leaked documents - if ever happened - will not be accessible by unauthorized parties.
3. An additional ethical risk is that participants voice concerns on the societal benefits of the research in an overwhelming majority. Researchers will have to respect the participants' integrity in a transparent manner and through dialogue. In this case too, their concerns will have to be addressed and a discussion will have to take place as their consent is of course crucial.
4. Since the data will be collected from different sources, the risk of mislabeling, or human errors of recording data might happen. This will be avoided by carefully inspecting, verifying and double checking the data for veracity and conformity with the sources.

5. There is a risk of suboptimal data analysis that may lead to unrealistic conclusions. This risk can be mitigated through a rigorous methodology for data collection, recording, quality assurance of data as well as the usage of proper statistical and data analysis methods and validation. All steps of data collection, processing and analysis will be documented, audited and verified by experts.

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Co-Creating Misinformation - Resilient Societies

Appendix D1.1

Disclaimer

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the Co-Inform Consortium nor the European Commission are responsible for any use that may be made of the information contained herein.

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Executive Summary

The below tools, materials and inventory Methods of Co-Design are meant to be used as an accompanying guide to the Co-Creation Framework. They are meant to inspire the organisers of Co-Creation Workshops and the Pilots. This is a repository of existing tools from various sources, mentioned in the Appendix references section (D), that have been collated into one document. The goal is to provide them for ease of use in one single accessible place for Co-Inform project partners to be inspired by and choose from. It will be used as a “living document” throughout the duration of the project. This guide will be augmented in iterations as the project evolves and will start by including the below sections:

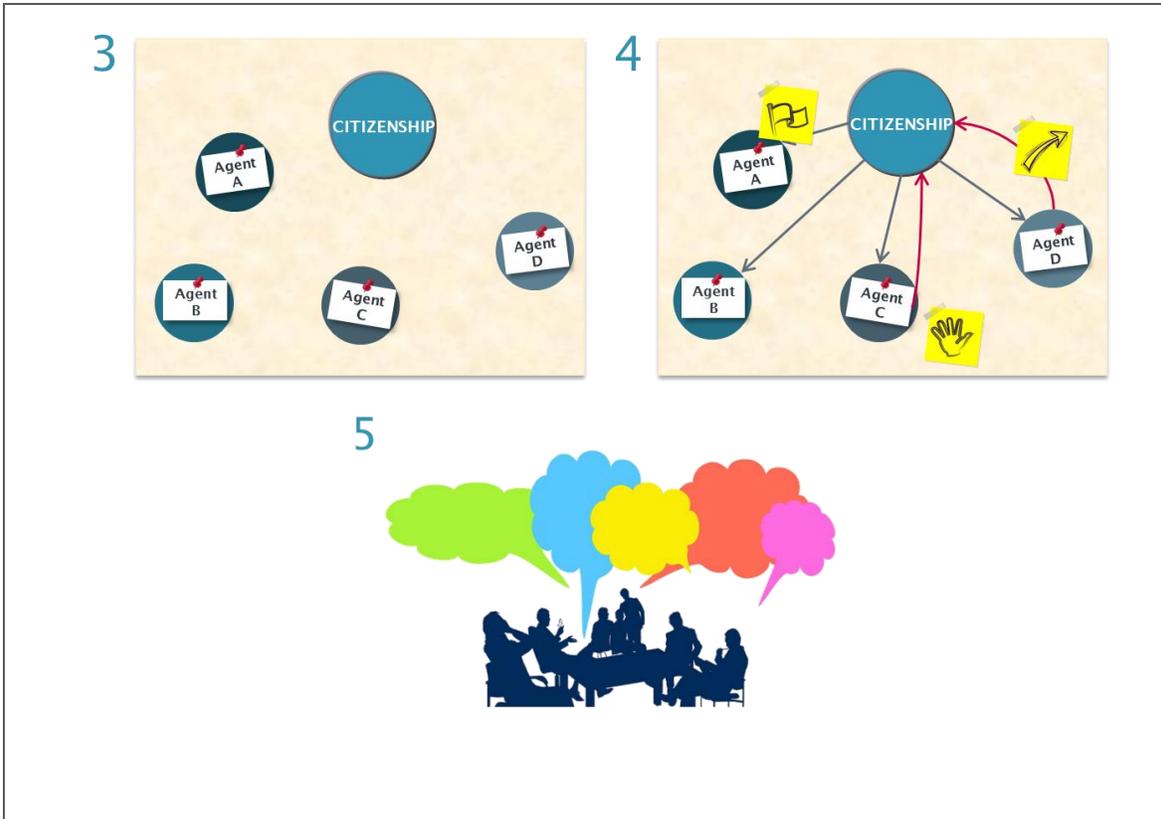
- A. Co-Design Tools, Materials and Resource Guide
- B. Inventory of Methods for Co-Design
- C. Forms and Templates to be filled in by participants in study
- D. References

A. Co-Design Tools, Materials and Resource Guide

1. Methods for Planning and Baseline Analyses

1.1 Organizational chart diagram

Organizational chart diagram
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial purpose / Objective
To illustrate the extent to which individuals, organizations, institutions and agents interact with each other, and the relative importance of each one of them, around the theme rose.
What it consists / steps for its realization
<ol style="list-style-type: none"> 1. Clearly state the topic to be dealt with: the link between the relationships and interactions between the different actors and agents interested or affected around an issue. 2. Develop a general discussion to identify the different stakeholders and agents that are related to the topic. 3. Reflect on the state of the relationship between each of the agents. 4. Graph the link diagram. 5. Re-open the debate on the results obtained.
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>1</p>  </div> <div style="text-align: center;"> <p>2</p>  </div> </div>



Participants

- Number: 5-8
- Type: all, depending on the topic to study.

Configuration / necessary resources

- Estimated time / estimated duration: 30-45 minutes.
- Modalities: face-to-face
- Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2
- Implementation costs: Low.



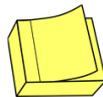
White cards/
notesheet



Markers



Thumbtacks or
glue



Adhesive notes



Panels or murals to
expose ideas

Results
<ul style="list-style-type: none"> • Results of its application: graphical representation of organizational link. • Type of captured needs: observable needs.
Strength / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: It allows obtaining much information about the implication and degree of relation between different stakeholders around a thematic one. • Weaknesses: Participants are required to have profiles with different knowledge about the organizations and / or agents that are linked during the dynamics, to be all represented and their relationships.
Application for Co-Inform
<ul style="list-style-type: none"> • Appropriate group (s) of Co-Inform stakeholders to involve • Adaptation for Co-Inform proposal: it facilitates the consultation of a group when it wants to obtain its opinion or get its point of view of a problem

1.2 Sheet of agents/actors involved in the co-design process

Sheet of agents/actors involved in the co-design process
Interaction in the Co-Design Process Moment:
Recommended for: Preparation
Initial purpose / Objective
Facilitate the management of the different agents / actors involved in the long process of co-design.
What it consists / steps for its realization
<ol style="list-style-type: none"> 1. Establish information of interest on the different agents / actors who will participate in the process. For example: <ul style="list-style-type: none"> • Organization. • Responsible / Partner/ Interlocutor. • Competences / Scope of knowledge. • Contact information (email, phone, address, etc.). 2. Collect the information in a summary sheet. 3. Validate agents / actors and information.
Participants
<ul style="list-style-type: none"> • Number: 1-4 • Type: Managers and technicians of the co-design process
Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: During several sessions. It depends on the amount of information to collect. • Modalities: The tasks can be done face-to-face and online. • Support materials: Work documents.

<ul style="list-style-type: none"> • Human resources: 1-4. • Implementation costs: Low.
Results
<ul style="list-style-type: none"> • Results of its application: List of agents/actors. • Type of captured needs: Explicit needs.
Strength / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: A basic document facilitates the management of participation in the co-design process. • Weakness: It requires a broad view of the stakeholders in the co-design process. It is recommended to previously use other tools such as "Organizational chart diagram" for this reason.
Application for Co-Inform
<ul style="list-style-type: none"> • Appropriate Group(s) of Co-Inform stakeholders to involve (all, selected, etc.).

1.3 Catchment Plan

Catchment Plan
Interaction in the Co-Design Process Moment:
Recommended for: Preparation
Initial purpose / Objective
Attract different agents and actors to participate in the co-design process.
What it consists / steps for its realization
<p>The capture process is the "key of entry" to get the involvement of different target audiences.</p> <ol style="list-style-type: none"> 1. Define the initial information that agents / actors need to participate. 2. Define channels for transmitting information. 3. Establish the "key messages" to raise awareness of the importance of participation. 4. Identify the motivations of the participants and the "rewards" (emotional, economic, etc.). For example, gamification may be used. 5. Define concrete actions to involve the agents / actors in the process and the expected results. 6. Plan in the calendar to do each action. 7. Review and redefine.
Participants
<ul style="list-style-type: none"> • Number: 1-4. • Type of participants: Managers and technicians of the co-design process
Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: During several sessions. It depends on the amount of information to collect. • Modalities: The tasks can be done face-to-face and online.

<ul style="list-style-type: none"> • Support materials: Work documents. • Human resources: 1-4. • Implementation costs: Low.
Results
<ul style="list-style-type: none"> • Results of its application Definition of guidelines, specific actions and milestones to attract different agents and actors. • Type of captured needs: Explicit needs.
Strength / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: A basic document facilitates the management of participation in the co-design process. • Weakness: It requires a broad view of the stakeholders in the co-design process. It is recommended to previously use other tools such as "Organizational chart diagram" for this reason.
Application for Co-Inform
<ul style="list-style-type: none"> • Appropriate Group(s) of Co-Inform stakeholders to involve (all, selected, etc.).

1.4 Set of rules for the participation

Set of rules for the participation
Interaction in the Co-Design Process Moment:
Recommended for: Preparation
Initial purpose / Objective
Establish a set of rules to facilitate empathy, communication and collaboration in the co-design process.
What it consists / steps for its realization
<ul style="list-style-type: none"> • Estimated time / estimated duration: The elaboration of the set of rules depends on the amount of information to collect. However, the participants should not spend more than 30 minutes to know the set. • Modalities: The tasks can be done face-to-face and online. • Support materials: Work documents. • Human resources: 1-4. • Implementation costs: Low.
Participants
<ul style="list-style-type: none"> • Number: 1-4. • Type of participants: Managers and technicians of the co-design process
Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: The elaboration of the set of rules depends on the amount of information to collect. However, the participants should not spend more than 30 minutes to know the set.

<ul style="list-style-type: none"> • Modalities: The tasks can be done face-to-face and online. • Support materials: Work documents. • Human resources: 1-4. • Implementation costs: Low.
Results
<ul style="list-style-type: none"> • Results of its application: Set of rules. • Type of captured needs: Explicit needs.
Strength / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: A basic document facilitates the management of participation in the co-design process. • Weakness: It requires a broad view of the stakeholders in the co-design process.
Application for Co-Inform
<ul style="list-style-type: none"> • Appropriate Group(s) of Co-Inform stakeholders to involve (all, selected, etc.).

2. Methods for Interaction Moments to capture user requirements & functional design

2.1 Opinion Survey

Opinion survey
Interaction moment in the co-design process:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial purpose / Objective
Getting data from a large number of people in a structured way and through specific questions, often with procedures that allow statistical analysis.
What it consists / Steps for its realization
<ol style="list-style-type: none"> 1. Define the purpose and the information needs. Establish the objective of the study and dimension on analysis. 2. Design the population simple to be surveyed. 3. Design the questionnaire. The questionnaire is the instrument of the survey. It operationalizes the studied variables. The questions collected in it are items that correspond with previously-defined indicators to study the variables. 4. To teach and to train the interviewers' team, is the questionnaire is provided. 5. Make a pre-test of the questionnaire questions. 6. Apply the survey (face-to-face, by phone, telematics, etc.). 7. Record the information. 8. Make use and analyze the information.

Participants
<ul style="list-style-type: none"> • Number: depending on the representativeness of the sample, it could need the participation of a large number of participants. • Type: all types, according to the theme to be studied.
Configuration / required resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: it depends on the study objectives. However, it's recommended not to "steal" more than 10 minutes to the surveyed person, to not discourage the participation. • Modalities: face-to-face, by phone, telematics, etc. • Support materials: the questionnaire. Depending on the chosen modality could be offered in different formats: paper, telematics (there are platforms and applications that facilitate this task, like Doodle, etc.). • Human resources: if the questionnaire is not self-administrated, interviewers are required. • Implementation costs: High.
Results
<ul style="list-style-type: none"> • Results of the application: statistical data over the opinion of the surveyed people. • Type of captured needs: explicit ones.
Strengths / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: the information is directly obtained from people who have been previously selected (representative sample) to make inferences about a wider population. • Weakness: the survey is becoming less used because of the difficulty of accessing to highly segmented target. It could be more expensive because of the human resources to be employed.
Application for Co-Inform
<ul style="list-style-type: none"> • Co-Inform adaptation proposal: it facilitates the participation when consultation and deliberation of a specific population is required. If the result is binding or not should be clarified.

2.2 Brainstorming

Brainstorming
Interaction in the Co-Design Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial Purpose / Objective:
To get quickly a large number of ideas from a group without engaging in a detailed discussion.

Thinking in the long term, beyond the daily problems.
What it consists / steps for its realization:
<ol style="list-style-type: none"> 1. Ask the group to reflect to expose as many ideas as possible about the topic. 2. Ask each person to briefly expose their idea (without discussing the others' ideas). 3. Write the ideas. 4. Hold a debate. 5. To group together and choose the problems, issues and topics that are brought up, to make easier the analysis. 6. Establish a priority order if it would be necessary.
Participants
<ul style="list-style-type: none"> • Number: from 5 to 8 (max.) • Type: all, depending on the topic to study.
Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: 30-45 minutes. • Modalities: face-to-face and telematics (through chat or forum online). • Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic. • Human resources: 1-2. • Implementation costs: Low.
Results
<ul style="list-style-type: none"> • Results of the application: mapping ideas to face a problem. List of topics to work with. • Type of captured needs: explicit needs.
Strengths / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: participants know themselves the problem. Ideas are verbalized in user/customer/stakeholder words. • Weakness: it must be ensured that participants have the necessary starting information. Sometimes it will be necessary to clarify concepts or ensure they are by all participants.
Application for Co-Inform
<ul style="list-style-type: none"> • Appropriate Co-Inform stakeholders groups to involve. • Adaptation for Co-Inform proposal: it facilitates the consultation of a group when it wants to get its opinion or get its point of view of a problem.

2.3 Hats

6 Hats
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial purpose / Objective
<ul style="list-style-type: none"> • Quickly obtaining of a large number of ideas from a group without engaging in a detailed discussion. • Thinking in the long term, beyond the immediate daily problems.
What it consists / Steps for its realization
<p>It's a variation of the Brainstorming. In this case, different roles (hats) are distributed to each participant, what implies assuming a different perspective or point of view over the topic to work out.</p> <ul style="list-style-type: none"> • Black hat: criteria, judgment or negative opinion; damages and criticism. • White hat: pure facts, figures, sources of information. • Blue hat: cold and control, thinking about thinking, processes. • Red hat: emotions, feelings, forebodings, intuition. • Yellow hat: optimist, positive and constructive thinking. • Green hat: creativity, movement, provocation, divergence.
Participants
<ul style="list-style-type: none"> • Number: 6. • Type: all, depending on the topic to study.
Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: 30-45 minutes. • Modalities: face-to-face • Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.

<ul style="list-style-type: none"> • Human resources: 1-2 • Implementation costs: Low.
 <p>White cards/ notesheet</p>  <p>Markers</p>  <p>Thumbtacks or glue</p>  <p>Hats: Identification cards</p>  <p>Panels or murals to expose ideas</p>
<p>Results</p> <ul style="list-style-type: none"> • Results of its application: mapping ideas to face a problem. List of topics to work with. • Type of captured needs: explicit needs.
<p>Strengths / Weakness / Challenges</p> <ul style="list-style-type: none"> • Strengths: participants know for themselves the problem. Ideas are verbalized in user/customer/stakeholder words. • Weakness: it must be ensured that participants have the necessary starting information. Sometimes it will be necessary to clarify concepts or ensure they are by all participants.
<p>Application for Co-Inform</p> <ul style="list-style-type: none"> • Adaptation for Co-Inform proposal: it facilitates the consultation of a group when it wants to get its opinion or get its point of view of a problem.

2.4 Philipps 66

<p>Philipps 66</p>
<p>Interaction in the Co-Design Process Moment:</p>
<p>Recommended for: Define concepts/Generate ideas/Capture user requirements.</p>
<p>Initial purpose / Objective</p>
<p>When a large group is available, it may be useful to use this technique, so it allows to give more dynamic to the group by splitting the job into subgroups: groups of 6 participants and 6 minutes.</p>
<p>What it consists / steps for its realization</p>
<ol style="list-style-type: none"> 1. Divide the group into subgroups of at most six components that will discuss for six minutes to answer a question or solve a problem or case formulated by the moderator. 2. Distribute the subgroups in rooms and carry out the discussion work on the topic: each member within the subgroup presents their opinion for one minute. 3. Gather the subgroups and make the presentation of contributions. 4. Compare and synthesize the results.



Participants

- Number: more than 12.
- Type: all, depending on the topic to study.

Configuration / necessary resources

- Estimated time / estimated duration: 30-45 minutes.
- Modalities: face-to-face
- Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: Low.



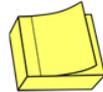
White cards/
notesheet



Markers



Thumbtacks or
glue



Adhesive notes



Panels or murals to
expose ideas

Results

- Results of your application: Mapping ideas around several questions on a topic
- Type of needs captured: Explicit and observable needs.

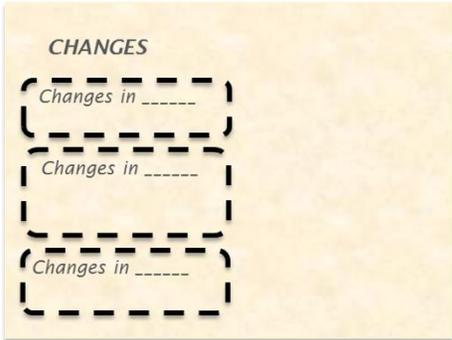
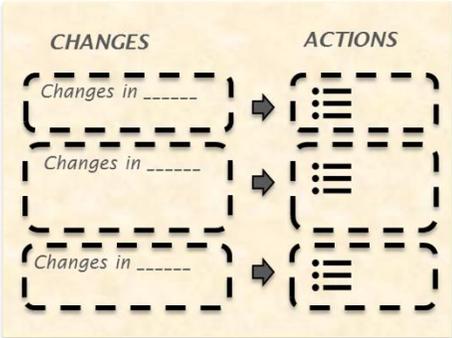
Strength / Weakness / Challenges

- Strength: It allows to get deep with a certain level of detail on a thematic in a reduced time and to articulate the participation of a large group of people.
- Weaknesses: The job of the dynamizers is essential to articulate successfully the development of the dynamics. The physical space where the dynamics is performed is also important to facilitate the work (distribution, acoustics, etc.).

Application for the Co-Inform

- Adaptation for Co-Inform proposal: it facilitates the consultation of a group when it wants to obtain its opinion or get its point of view of a problem.

2.5 Significant Change

Significant change	
Interaction in the Co-Design Process Moment:	
Recommended for: Define concepts/Generate ideas/Capture user requirements.	
Initial purpose / Objective	
Identify the most significant changes in different areas and aspects that should be propitiated to solve or counteract the impact of previously established problems.	
What it consists / steps for its realization	
<ol style="list-style-type: none"> 1. Ask the participants to reflect individually on the aspects and kinds of changes they feel should be made to solve the problems. Changes must be related to different areas or aspects previously raised, for example: changes in citizenship, in administration, in social agents, etc. 2. Following a turn order for participation, each participant briefly exposes his ideas. 3. Re-open the debate on the results obtained. 	
1	
2	
3	
Participants	
<ul style="list-style-type: none"> • Number: 5-8 • Type: all, depending on the topic to study. 	
Configuration / necessary resources	
<ul style="list-style-type: none"> • Estimated time / estimated duration: 30-45 minutes. • Modalities: face-to-face 	

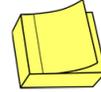
- Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic
- Human resources: 1-2.
- Implementation costs: Low.



Cards/ notesheet



Markers



Adhesive notes



Panels or murals to expose ideas

Results

- Results of its application: it facilitates the step before the definition of requirements over a solution
- Type of captured needs: explicit and observable needs.

Strength / Weakness / Challenges

- Strength: previous list of issues to base the decision making of a solution. The important areas to be worked out are verbalized in the agents or final users' words.
- Weakness: This is a dynamic of some complexity. The desirable "significant changes" cannot always be translated into realizable solution requirements.

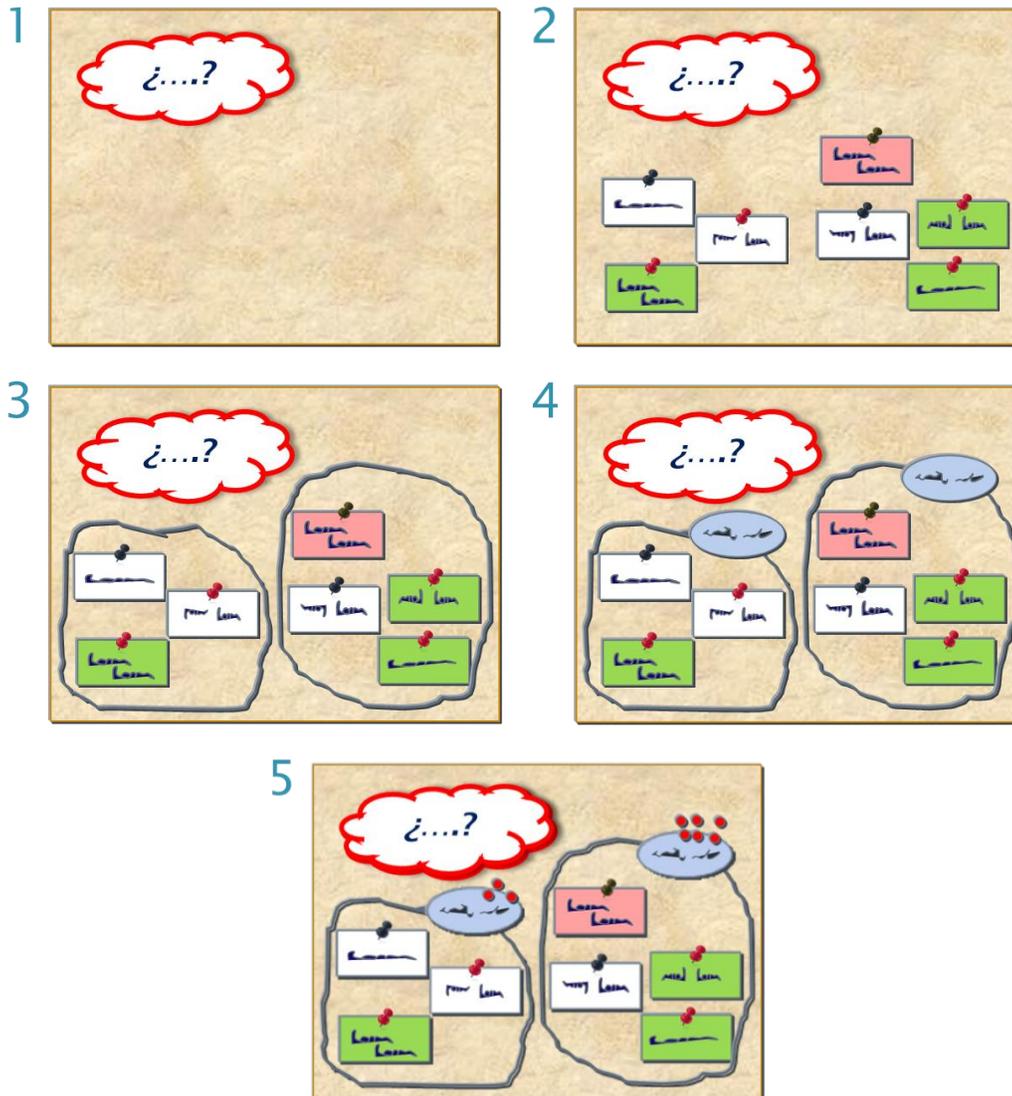
Application for Co-Inform

- Adaptation for Co-Inform proposal: it facilitates the consultation and deliberation of the group of participants.

2.6 Metaplan

Metaplan
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial purpose / Objective
<ul style="list-style-type: none"> • Identify ideas regarding issues, objectives or problems on a given issue. • Prioritize groups of ideas to face in a consensual way.
What it consists / steps for its realization
<ol style="list-style-type: none"> 1. Ask a question to participants, which will be graphically collected in a mural. 2. Ask each person to reflect and generate at least 3 or 4 ideas related to the question. 3. Place and make a first association of ideas. 4. Hold a debate the grouping of ideas under titles (keywords or topics).

5. Assess the importance or priority of established groups.

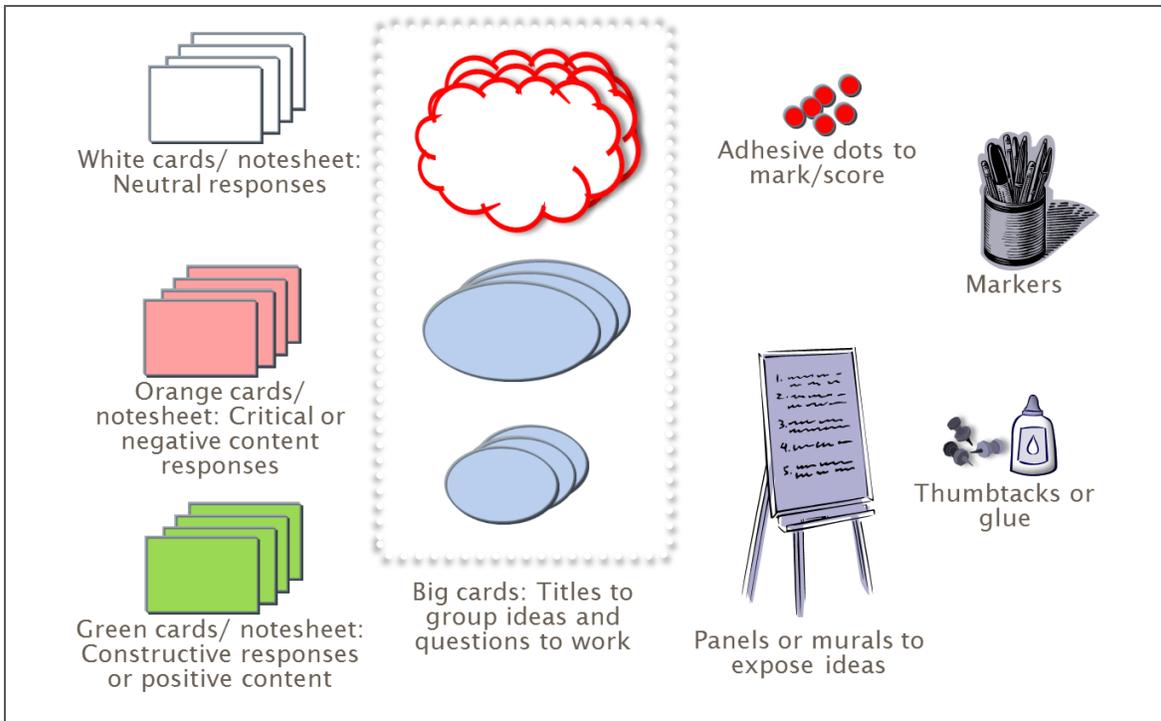


Participants

- Number: 8-12
- Type: all, depending on the topic to study.

Configuration / necessary resources

- Estimated time / estimated duration: 60-90 minutes.
- Modalities: face-to-face
- Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: Low.



Results

- Results of its application: list or grouped ideas to work out and prioritized around a topic.
- Type of captured needs: explicit and observable needs.

Strengths / Weakness / Challenge

- Strengths: it allows obtaining results in a relatively short and limited time for the solution of problems or subjects of a certain complexity.
- Weaknesses: this is a dynamic of some complexity. The dynamizers assume an important role in the articulation of the dynamics.

Application for Co-Inform

- Adaptation for Co-Inform proposal: it facilitates the consultation and deliberation of the group of participants.

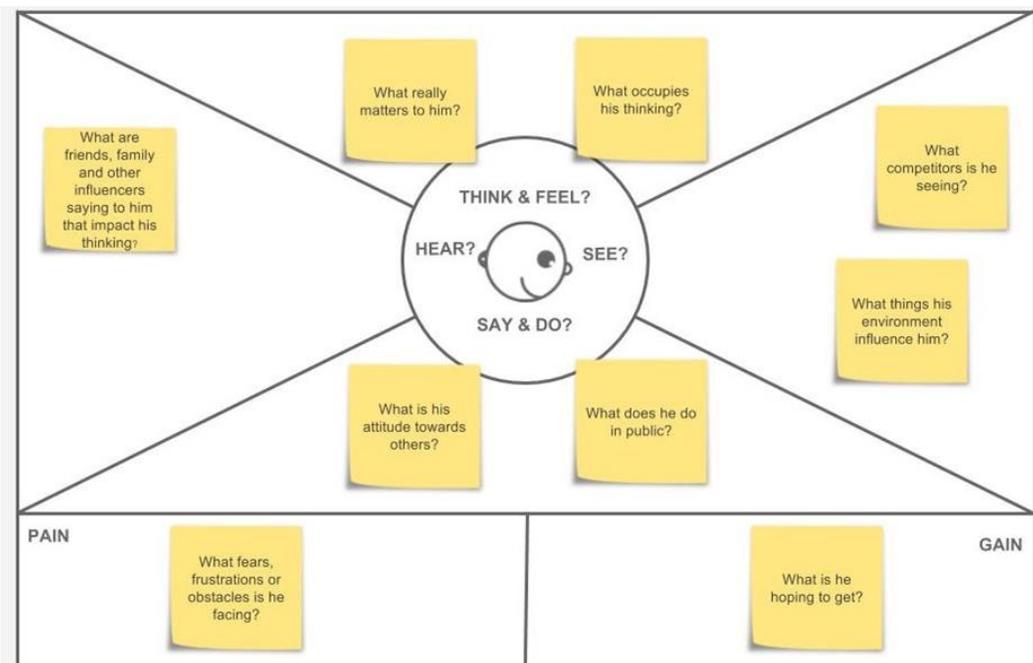
2.7 Empathy Map

Empathy map
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial purpose / Objective
Deeply visualization of the emotional and rational aspects of the user in shaping their actions and feelings. It is about understanding your point of view regarding a need / problem / product / service and offer and appropriate proposal for your needs.
What it consists / steps for its realization

Imagine the final user (name, age, employment, etc.) and answer the questions putting in the other shoes.

Steps:

1. What you see.
2. What you say and what you do.
3. What you hear.
4. What you think and what you feel.
5. From these 4 steps you get another 2:
6. What are the efforts you make
7. What are the benefit, results you expect to get.

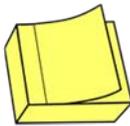


Participants

- Number: -
- Type: service users

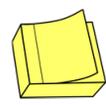
Configuration / necessary resources

- Estimated time / estimated duration: 30-45 min.
- Modalities: face-to-face.
- Support materials: Din A3 or board and adhesive notes.
- Human resources: 1 o 2.

 Markers	 Panels or murals to expose ideas
 Adhesive notes	
Results	
<ul style="list-style-type: none"> • Results of the application: knowing the final user way. Creating a guide with each user type behaviors. • Type of captured needs: - 	
Strengths / Weakness / Challenge	
<ul style="list-style-type: none"> • Strengths: adjust the service to the user • Weakness: hypothesis (not facts). 	
Applications for Co-Inform	
<ul style="list-style-type: none"> • Adaptation for Co-Inform proposal 	

2.8 What if

What if
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial purpose / Objective
Detection and analysis of deviations from their expected normal behavior.
What it consists / steps for its realization
Brainstorming in which a group of people experienced and familiar with the process in question asks questions about some undesirable events or situations that begin with the phrase "What happens?"
Steps:
1- Definition of the scope of the study.
2- Collection of the necessary information.
3- Definition of the work team.

<p>4- Development of the questionnaire. 5- Results.</p>
<p>Participants</p> <ul style="list-style-type: none"> • Number: 3-4 • Type: service users.
<p>Configuration / necessary resources</p> <ul style="list-style-type: none"> • Estimated time / estimated duration: 30-45 min. • Modalities: face-to-face • Support materials: - • Human resources: 1-2. • Implementation costs: Low. <div style="display: flex; justify-content: space-around; align-items: flex-end; text-align: center;"> <div data-bbox="397 735 560 850">  <p>Cards/ notesheet</p> </div> <div data-bbox="657 714 787 850">  <p>Markers</p> </div> <div data-bbox="876 745 982 850">  <p>Adhesive notes</p> </div> <div data-bbox="1055 735 1193 997">  </div> </div> <p style="text-align: center; margin-top: 10px;">Panels or murals to expose ideas</p>
<p>Results</p> <ul style="list-style-type: none"> • Application results: Generate a list of possible incidental scenarios, their consequences and possible solutions for risk reduction • Captured needs type: -
<p>Strengths / Weakness / Challenge</p> <ul style="list-style-type: none"> • Strengths: Easy application. Application possible to any facility, area or process. • Weakness: Adaptation to the particular case being analyzed required. Knowledge of the system required.
<p>Application for Co-Inform</p> <ul style="list-style-type: none"> • Adaptation for Co-Inform proposal

2.9 Brainpool

<p>Brainpool</p>
<p>Interaction in the Co-Design Process Moment:</p>
<p>Recommended for: Define concepts/Generate ideas/Capture user requirements</p>
<p>Initial purpose / Objective</p>

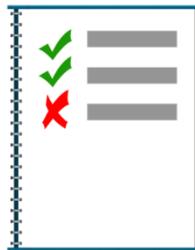
To deepen in the aspects or questions already identified after a previous exploration of the situation or the problem, trying to establish concrete actions that contribute to its development. It is used to define areas on which to work and even to reach concrete solutions or actions.

What it consists / steps for its realization

The brainpool applies when there is already a prior definition of the subthemes (dimensions or aspects) to work on a topic.

1. Select the subthemes to work during the dynamics. At least as many as the number of participants at the table.
2. Fill each card with a sub-topic.
3. Shuffle the cards and lay them face down on the table.
4. Turns will be established for the contributions (of 3-5 minutes) that will be indicated with the sound of the bell.
5. Once the turn is started, each participant must take a card and contribute new ideas that enrich the ideas already written by other participants. When you do not have new ideas to grow a sub-topic, you can change the card to another one in the middle of the table.
6. At the end of the turn, the cards are re-joined, mixed and retaken a new card with a new sub-topic.
7. After the contributions have been completed, the fiches are collected and a synthesis of the most outstanding contributions is made

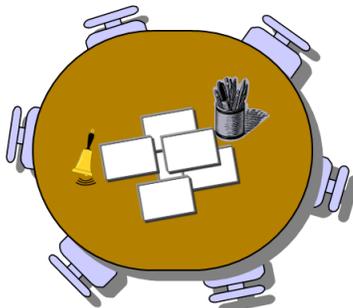
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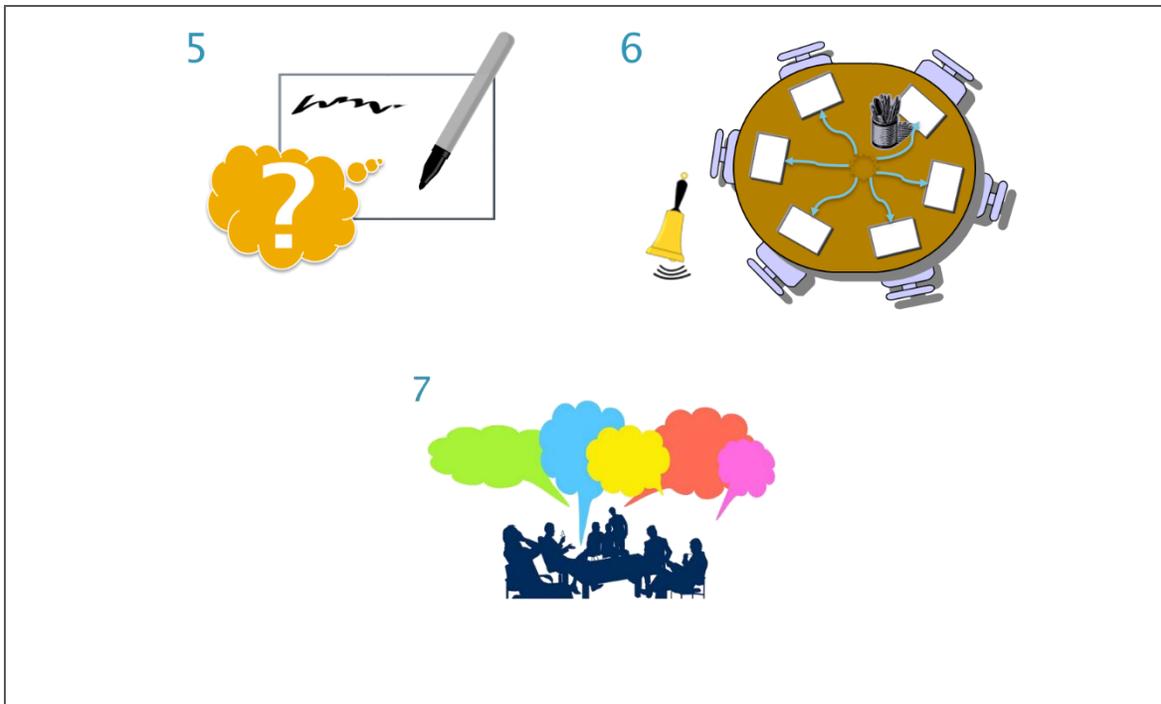


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4





Participants

- Number: 5-12.
- Type: all, depending on the topic to study.

Configuration / necessary resources

- Estimated time / estimated duration: 60 – 90 minutes.
- Modalities: face-to-face.
- Support materials: Cards to collect ideas, mural to show the ideas, pens, etc., for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: Low.



Cards/ notesheet



Markers



Small bells



Panels or murals to expose ideas

Results

- Application results: List of work and possible actions in the future.
- Type of captured needs: Tacit needs.

Strengths / Weakness / Challenge

- Strengths: It is a technique to get many ideas and make them grow in a short time.

<ul style="list-style-type: none"> Weakness: This is a dynamic of some complexity. It requires a greater role of the supportive people.
Application for Co-Inform
<ul style="list-style-type: none"> Adaptation for Co-Inform proposal: it make easier the consultation and deliberation of the group of participants.

2.10 Method 365

Method 365
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements. It is a more structured version of brainstorming.
Initial purpose / Objective
To develop ideas systematically, avoiding group dynamics difficulties and the possibility of determining the originator of a particularly powerful idea (In case that it is important in terms of intellectual property)
What it consists / steps for its realization
It starts with 6 group members. Who get acquainted with the particular problem or question at hand. Then each person writes down 3 crude ideas on how to solve it. The ideas are passed on to another group member, who reads them and adds any further ideas or modifications that she can think of. The ideas are passed around until all group members have seen all the original ideas. 6 people, 3 ideas, 5 rounds of elaboration.
Participants
<ul style="list-style-type: none"> Number: groups of 6 people each. Type: all types, according to the theme to be studied.
Configuration / necessary resources
<ul style="list-style-type: none"> Estimated time / estimated duration: 30-60 min Modalities: face-to-face. Support materials: posts it or paper. Implementation costs: low.
Results
<ul style="list-style-type: none"> Development of ideas systematically
Strengths / Weakness / Challenge
<ul style="list-style-type: none"> Strengths: to generate ideas systematically whilst avoiding group dynamics difficulties and the possibility of determining the originator of a particularly powerful idea (In case that it is important in terms of intellectual property). Weakness: absence of a dynamic, lively and exciting group process that stimulates creative ideas.

Application for Co-Inform

-

2.11 Future Workshops

Future Workshops
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements
Initial purpose / Objective
The aim is for future users or stakeholders to clarify the common problems in their current situation, creation visions about the future and discuss how these visions could be realized. The FW consists of three phases: critique, fantasy and implementation.
What it consists / steps for its realization
<p>The critique phase consists of brainstorming problems in the current work situation. Contributions are formulated as brief, critical observations or statements. They are grouped in categories corresponding to problem areas. Participants are divided into small groups, where each group takes one problem area and formulates a concise and coherent critique of it.</p> <p>The fantasy phase is oriented toward unrestricted ideas on what the future situation could be like. Two steps can be distinguished here: a warm up session where critical statements from the former phase are formulated in positive terms and presented. The second step consists of a brainstorming this time on future possibilities. It is important that all criticism and judgment of the viability of proposals is postponed during this session. Outcomes of this second step are evaluated by a vote where each participant chooses five favourites. The 7 or 8 winning ideas are then collected into a basis for a vision. Divided into groups participants develop their own refined version of the vision, still without regard to practical and technical limitations. It is recommended the use of metaphors as a way to summarize and develop the vision.</p> <p>The implementation phase starts when the small group presents its vision. The possibility of realizing different visions under current conditions are assessed in a joint discussion which also includes an identification of what needs to change in order to realize the visions.</p>
Participants
<ul style="list-style-type: none"> • Number: depending on the representativeness of the simple, it could need the participation of a large number of participants. • Type: all types, according to the theme to be studied.
Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: between 1 hour and 1.30 • Modalities: face-to-face • Support materials: paper, whiteboards. • Human resources: brainstorming leaders coaching the sessions are needed.

<ul style="list-style-type: none"> • Implementation costs: low.
Results
<ul style="list-style-type: none"> • The FW concludes with a plan for further work: what needs to be done, when and by whom. More precisely, it generates the identification of existing problems, the creation of a goal state where the problems are solved and the construction of a chain of transformation from the current state to the goal state, • Type of captured needs: explicit ones.
Strengths / Weakness / Challenge
<ul style="list-style-type: none"> • Strengths: the information is directly obtained from the stakeholders who together decides what needs to be done, when and by whom. • Weakness: it takes time.
Application for Co-Inform
<ul style="list-style-type: none"> • Perfectible feasible to use the FW method in a design team where designers, developers and users participate for instance in a product development situations

2.12 Tangible Topology

Tangible Topology
Interaction in the Co-Design Process Moment:
<p>Recommended for: Define concepts/Generate ideas/Capture user requirements Phase.</p> <p>This is a tool that was developed by a lot of different organizations, primarily to teach earth science concepts related to watershed science. However, it's also an amazing tool for teaching landscape and topography skills to architects and city planners, or even visualize basic ecology concepts for lay audiences.</p>
Initial purpose / Objective
<p>The main objective of this tool is to provide an interactive fun way to engage with topographies and landscapes and understand the way water in particular flows with relation to land. It is a very hands on method which makes abstract concepts fun</p>
What it consists / steps for its realization
<p>Precise steps on setting this tool up (including open source code) can be found here:</p> <p>http://scholarslab.org/research-and-development/augmented-reality-and-simulation/</p>
Participants
<ul style="list-style-type: none"> • Number: Ideally one participant would engage with this at a time. But small groups of 4-5 can also work together on this. • Type: all types, according to the theme to be studied.

Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: Once the hardware is in place, it would need a day's work to set this up. • Modalities: face-to-face • Support materials: kinetic, sand, software, projector. • Human resources: Tech support in setting this up is required, as well as for maintainance. • Implementation costs: moderately high.
Results
<ul style="list-style-type: none"> • This tool produces clear, tangible insights into our interaction with our physical environment. It acts also as an ice breaker, allowing participants to talk and work collaboratively around issues that are abstract (such as sustainability, social-ecology) • Type of captured needs: both implicit and explicit ones.
Strengths / Weakness / Challenge
<ul style="list-style-type: none"> • Strengths: Innovative, fun and interactive way to understand, capture perceptions of participants • Weakness: it takes time to set up, has certain inherent costs on hardware.
Application for Co-Inform
<ul style="list-style-type: none"> • Ideal to be used in the first phase of the Co-Inform, to Define Concepts, Generate Ideas & Capture User Requirements.

2.13 Process Mapping

Tangible Topology
Interaction in the Co-Design Process Moment:
Recommended for: Define concepts/Generate ideas/Capture user requirements.
Initial purpose / Objective
Process mapping draws a concise picture of the sequences of tasks needed to bring a product or service from genesis to completion.
What it consists / steps for its realization
<p>Steps:</p> <ol style="list-style-type: none"> 1. Divide the group into subgroups of max. 4-6 participants. 2. Select a specific process (be it policy or community engagement with eco-system, or citizen science – internal group discussion) – 10 mins. 3. Group recorder helps prioritise and identify most important nodes in the process. Use several thinking tools to make the map more tangible (flow-coasters, stakeholder dolls etc.).

3. Gather the subgroups to present their contributions.

4. Compare and synthesize the results.

1



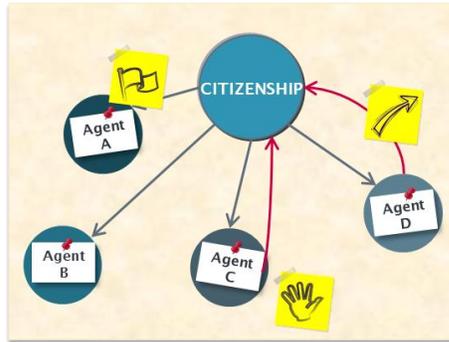
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5



Participants

- Number: >15
- Type: Mix of participants to start the co-design process.

Configuration / necessary resources

- Estimated time / estimated duration: <60 minutes.
- Modalities: face-to-face

- Support materials: cards to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2
- Implementation costs: Medium.



White cards/
notesheet



Markers



Panels or murals to
expose ideas



Thumbtacks or
glue



Adhesive notes

Results

- Results of its application: It provides a creative channel to map everyday practices & identify where the challenge lies & what possible solutions might look like.
- Type of captured needs: explicit and latent needs.

Strengths / Weakness / Challenge

- Strengths: It identifies where the challenge lies & what possible solutions might look like.
- Weaknesses: The effectiveness of process mapping varies significantly based on the writer's experience and observations.

Application for Co-Inform

- Adaptation for Co-Inform proposal: it facilitates the consultation of a group when it wants to obtain its opinion or get its point of view of a problem.

3. Methods for Technical design, process & data integration

3.1 Wished future

Wished future
Interaction in the Co-Design Process Moment:
Recommended for: Technical design / Prototyping.
Initial purpose / Objective
Organize a specific discussion about shared desires or views about the future of a project or other activity. Transform "wishes" into possible indicators of progress toward the desired future. Reflect over the relevance of the activities based on the visions in relation to the development.

What it consists / steps for its realization

1. Ask participants to describe how they would like things to be in the future. Clarify what future refers to "the wishes" (period or term).
2. Write each "wish" on a card.
3. Mix and read the cards aloud. Write them down on a board or mural, trying not to repeat them, and group them together.
4. Open a period of brainstorming, to configure the image of a shared future.
5. Represent the wishes graphically in a mural.



Participants

- Number: 6-10.
- Type: all, depending on the topic to study.

Configuration / necessary resources

- Estimated time / estimated duration: 60-90 minutes.
- Modalities: face-to-face
- Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: Low.

 Cards/ notesheet	 Markers	 Adhesive notes	 Panels or murals to expose ideas
Results			
<ul style="list-style-type: none"> • Application results: Organization in the time of the goals to be achieved in the development of a project or activity. Based on these, indicators of achievement can be defined. • Type of captured needs: Tacit needs. 			
Strengths / Weakness / Challenge			
<ul style="list-style-type: none"> • Strengths: Concrete in the definition of future goals that can become to the definition of indicators to evaluate the development of a project or activity. • Weaknesses: This is a dynamic of some complexity. "Whishes" are not always being translated into "possible goals." 			
Application for Co-Inform			
<ul style="list-style-type: none"> • Adaptation for Co-Inform proposal: it make easier the consultation and deliberation of the group of participants 			

3.2 SCAMPER

SCAMPER
Interaction in the Co-Design Process Moment:
Recommended for: Technical design / Prototyping.
Initial purpose / Objective
To generate inventive ideas to solve a known problem by providing a list of active verbs that you associate with your problem.
What it consists / steps for its realization
<p>Substitute: Think to substitute part of the product/process for something else.</p> <p>Combine: Think about combining two or more parts of your probortunity to achieve a different product/process or to enhance synergy</p> <p>Adapt: Think about which part or the product/process could be adapted to remove the probortunity or think how you could change the nature of the product/process.</p>

Modify: Think about changing part of all of the current situation, or to distort it in an unusual way.

Put to other purposes: Think of how you might be able to put your current solution/product/process to other purposes, or think what you could reuse from somewhere else in order to solve your own probortunity.

Eliminate: Think of what might happen if you eliminated various parts of the product/process/probortunity and consider what you might do in that situation.

Rearrange/Reverse: Think of what you would do if part of your probortunity/product/process worked in reverse or done in a different order.

Participants

- Number: 6-10.
- Type: all, depending on the topic to study.

Configuration / necessary resources

- Estimated time / estimated duration: 60-90 minutes.
- Modalities: face-to-face
- Support materials: cards to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: Low.



Cards/ notesheet



Markers



Adhesive notes



Panels or murals to expose ideas

Results

- Application results: Different views on a problem will help us to get more creative ideas and give better solutions.

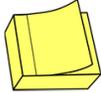
Strengths / Weakness / Challenge

- Strengths: Encourages the creativity.
- Weaknesses: It works only in limited environments

Application for Co-Inform

Adaptation for Co-Inform proposal

3.3 FMEA (Failure mode and effects analysis)

FMEA (Failure mode and effects analysis)
Interaction in the Co-Design Process Moment:
Recommended for: Technical design / Prototyping.
Initial purpose / Objective
The FMEA helps identify potential failure modes based on experience with similar products and processes.
What it consists / steps for its realization
An FMEA uses three criteria to assess a problem: <ol style="list-style-type: none"> 1. The severity of the effect on the user. 2. How frequently the problem is likely to occur. 3. How easily the problem can be detected. <p>Participants must set and agree on a ranking between 1 and 10 (1 = low, 10 = high) for the severity, occurrence and detection level for each of the failure modes.</p>
Participants
<ul style="list-style-type: none"> • Number: 6-10. • Type: General public. All, depending on the topic to study.
Configuration / necessary resources
<ul style="list-style-type: none"> • Estimated time / estimated duration: Long-term or during several sessions. • Modalities: face-to-face. • Support materials: cards to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic. • Human resources: 1-2. • Implementation costs: Low.
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Markers</p> </div> <div style="text-align: center;">  <p>Adhesive notes</p> </div> <div style="text-align: center;">  <p>Panels or murals to expose ideas</p> </div> </div>
Results
<ul style="list-style-type: none"> • Application results: is a valuable tool that can be used to realize a number of benefits, including improved reliability of products and services, prevention of costly late design changes, and increased user satisfaction.

Strengths / Weakness / Challenge

- Strengths: Logical, structured process for identifying process areas of concern. It can contribute to improved designs for products and processes, resulting in higher reliability, better quality, increased safety, enhanced customer satisfaction and reduced costs.
- Weaknesses: As good as the team is.

Application for Co-Inform

- Adaptation for Co-Inform proposal: it make easier the consultation and deliberation of the group of participants

4. Methods for Interaction Moments Technical design, process & data integration

4.1 Focus Group

Focus group

Interaction in the Co-Design Process Moment:

Recommended for: Customization/Test.

Initial purpose / Objective

Collect different points of view and encourage reflection, debate and consensus. Make an exploration (of expectations or opinions) around a particular issue.

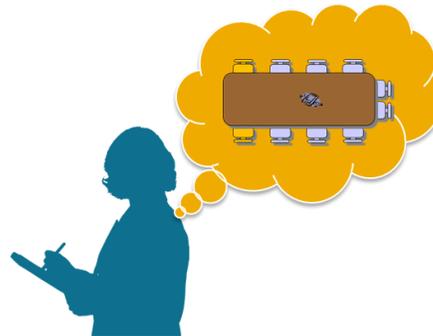
What it consists / steps for its realization

1. Define the problem or issue to be studied. Establish the analysis dimensions.
2. Establish the composition of the group (5-12 participants).
3. Elaborate the script or flexible manual of questions that have to semi-structure the discussion or conversation of the group. Establish the role of the moderator.
4. Conduct the session. Moderate interventions and clarify unclear ideas.
5. Make the registry of the information.
6. Analyze the information based on categories of analysis.

1



2





Participants

- Number: 5-12.
- Type of participants: End users or customers.

Configuration / required resources:

- Estimated time / estimated duration: 90 – 120 minutes.
- Modalities: face-to-face.
- Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: Low.



Results

- Applications: Testing the solution or service by its end users. List of strengths and weaknesses to improve.

Strengths / Weakness / Challenges

- Strengths: Get first-hand information from those involved in a problem or from the customer-users of a product or solution.
- Weakness: It is recommendable to establish some type of "reward" for the participation of people. The composition of the group should be careful so that no one person concentrates the debate on the others.

Application for Co-Inform

Proposal of Co-Inform adaptation

4.2 Scenario Planning

Scenario Planning

Interaction in the Co-Design Process Moment:

Recommended for: Roll out/Growing & scaling.

Initial purpose / Objective

It allows for more robust decisions by allowing multiple possible futures.

What it consists / steps for its realization

It consists in asking and trying to answer multiple key questions of "what if", imagining different futures.

- To identify the strategic question: What question needs to be answered?
- To identify trends and uncertainties.
- To build the scenarios.
- To describe the scenarios.
- To think about the strategy.

	Scenario A	Scenario B	Scenario C
Key Indicators
Key Contra-Indicators

Participants

- Number: 5-12.
- Type of participants: Profiles with a certain knowledge of the situation, problem or service, etc., on which future scenarios are defined.

Configuration / required resources:

- Estimated time / estimated duration: 60 -90 minutes.
- Modalities: face-to-face.
- Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.

<ul style="list-style-type: none"> • Human resources: 1-2. • Implementation costs: Low. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Cards/ notesheet</p> </div> <div style="text-align: center;">  <p>Markers</p> </div> <div style="text-align: center;">  <p>Panels or murals to expose ideas</p> </div> </div>
Results
<ul style="list-style-type: none"> • Applications: Scenes from which to carry out the definition of possible actions. • Sort of detected needs (observed, tacit, latent): observed and tacit.
Strengths / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: The definition of scenarios allows to identify the possible risks that can occur during the implementation. • Weakness: It is a technique with some complexity. It requires profiles with some knowledge of the situation, problem or service on which future scenarios are defined.
Application for Co-Inform
Proposal of Co-Inform adaptation: -

4.3 Customer Journey Map

Customer Journey Map
Interaction in the Co-Design Process Moment:
Recommended for: Customization/Test.
Initial purpose / Objective
To get a holistic view of what the user is going through from their point of view.
What it consists / steps for its realization
<p>The customer journey is the complete sum of experiences that users go through when interacting with your service. Instead of looking at just a part of a transaction or experience, the customer journey documents the full experience of being a user. Steps:</p> <ul style="list-style-type: none"> • Identify the user. • Understand the stages of the relationship. • Identify their motivations and doubts. • Map the touchpoints.

- Evaluate the key moments and their metrics.
- Add the internal processes of the service/company.
- Understand their “pains” and identify the opportunities.



Participants

- Number: 6-10.
- Type: all, depending on the topic to study.

Configuration / required resources:

- Estimated time / estimated duration: 60-90 minutes.
- Modalities: face-to-face
- Support materials: cards to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: High.



Cards/ notesheet



Markers



Adhesive notes



Panels or murals to expose ideas

Results

- Application results: An oriented graph describing the journey of a user by representing the different touchpoints that characterize his interaction with the service.

Strengths / Weakness / Challenges
<ul style="list-style-type: none"> • Strengths: It enables to walk in the user’s shoes. Identifies gaps and opportunities within the current offering • Weaknesses: Investment is required (time and cost) to capture the current user journey/experience.
Application for Co-Inform
<ul style="list-style-type: none"> • Adaptation for Co-Inform proposal: it make easier the consultation and deliberation of the group of participants

4.4 Role play

Canvas Business Model
Interaction in the Co-Design Process Moment:
Recommended for: Roll out/Growing & scaling.
Initial purpose / Objective
A strategic management and lean startup template for developing new or documenting existing business models.
What it consists / steps for its realization
<p>Steps:</p> <ul style="list-style-type: none"> • Customer segments. • Value propositions. • Channels. • Customer relationships. • Revenue streams. • Key activities. • Key resources. • Key partnerships. • Cost structure.

Key Partners Partner 1 Partner 2 ...	Key activities Activity 1 Activity 2 ...	Value propositions Proposition 1 Proposition 2 Proposition 3 ...	Customer relationships Relationship 1 Relationship 2 ...	Customer segments Segment 1 Segment 2 Segment 3 ...
	Key resources Resource 1 Resource 2 ...		Channels Channel 1 Channel 2 Channel 3 ...	
Cost structure Cost 1 Cost 2 Cost 3 ...		Revenue streams Stream 1 Stream 2 Stream 3 ...		

Participants

- Number: 6-10.
- Type: all, depending on the topic to study.

Configuration / required resources:

- Estimated time / estimated duration: Entire working day.
- Modalities: face-to-face & online.
- Support materials: cards to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic.
- Human resources: 1-2.
- Implementation costs: Low.

Results

Application results: To represent the project hypotheses in a visual way.

Strengths / Weakness / Challenges

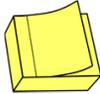
- Strengths: The coverage of the different dimensions such as Channels, Customer Segments, Cost Structure and Revenue Streams.
- Weaknesses: Canvas model does not take into account the strategic purpose of organizations – their mission, vision, and strategic objectives.

Application for Co-Inform

Adaptation for Co-Inform proposal: it make easier the consultation and deliberation of the group of participants

4.5 Storyboard

Storyboard
Interaction in the Co-Design Process Moment:
Recommended for: Customization/Test.
Initial purpose / Objective
The focus is on creating a visualization of the user interface that implements some set of behaviors.
What it consists / steps for its realization
It consists in drawing the moments (before, during and after) of our idea of the product/service/business in about eight pictures.
<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>Project Name: _____ Page: _____ of _____</p> <p>By: _____ Date: _____</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> </div> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; margin-top: 10px;"> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> </div> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> <div style="border: 1px solid black; width: 50px; height: 50px; margin: 5px;"></div> </div> <div style="display: flex; flex-wrap: wrap; justify-content: space-around; margin-top: 10px;"> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> <div style="width: 50px; height: 10px; border-bottom: 1px solid black; margin: 2px;"></div> </div> </div>
Participants
<ul style="list-style-type: none"> • Number: 6-10. • Type: all, depending on the topic to study
Configuration / required resources:
<ul style="list-style-type: none"> • Estimated time / estimated duration: 60-90 minutes. • Modalities: face-to-face & online. • Support materials: receipts to collect ideas, mural to show the ideas, pens, etc. for the face-to-face dynamic. • Human resources: 1-2. • Implementation costs: Low.

 Markers	 Adhesive notes	 Panels or murals to expose ideas
Results		
Application results: It consists in the representation of use cases through a series of drawings or pictures, put together in a narrative sequence. It illustrates the interaction required to achieve a goal.		
Strengths / Weakness / Challenges		
<ul style="list-style-type: none">• Strengths: We can make our idea of a service more understandable to the public, because it helps them to visualize what we have in mind through images.• Weaknesses: -		
Application for Co-Inform		
Adaptation for Co-Inform proposal: it make easier the consultation and deliberation of the group of participants		

B. Inventory of Methods for Co-design based on Nesta's "Playbook for innovation"

1. Learning and developing innovation skills



What is it?

This diagram presents the key principles of our approach to learning and developing innovation skills. The pedagogy that supports all our learning experiences has a 'bias towards action', which is based on innovation being about taking action and actually doing things.

Why or how would you use it?

This pedagogy has been developed specifically for our work, and so you may want to ask yourself some typical prompt questions to start thinking about your own vision on learning. If you are interested in taking a bias towards action, you can use this model to think through how this approach connects to different elements of a learning experience:



Learning by doing: We believe that learning new skills is best achieved by actually doing them, so we promote hands-on exercises and immersing learners in real life situations. Letting learners experience how to make decisions in the face of ambiguity and complexity, and then letting them reflect on that process, is far more effective than mere knowledge transfer.

Learning for action: The essence of innovation is doing things differently to generate a better outcome. Impact is not created through knowledge; it results from people doing things differently. For that reason, learning objectives should be formulated as actionable goals: how is the learner going to act after finishing a course?

Learning beyond the classroom: A learning experience is more than just a face-to-face workshop. We also consider leverage points before and after the key learning activity to elongate the learning experience, and how to support learners when they are using their new skills in their daily practice.

Learning with peers, from experts: The instructors and trainers who lead our courses are role models and should have hands-on experience with the material they teach. Being confronted with a new challenge without adequate skills to tackle it can be daunting, so trainers should be able to play the role of the 'more knowledgeable other' to support learners to step out of their comfort zone.

In addition to this, facilitating learners to learn from their peers helps them to build each other's confidence.

Typical questions that prompt using this diagram

What is your vision on learning? What should learning look like? What are the key principles that guide you in shaping and delivering learning experiences?

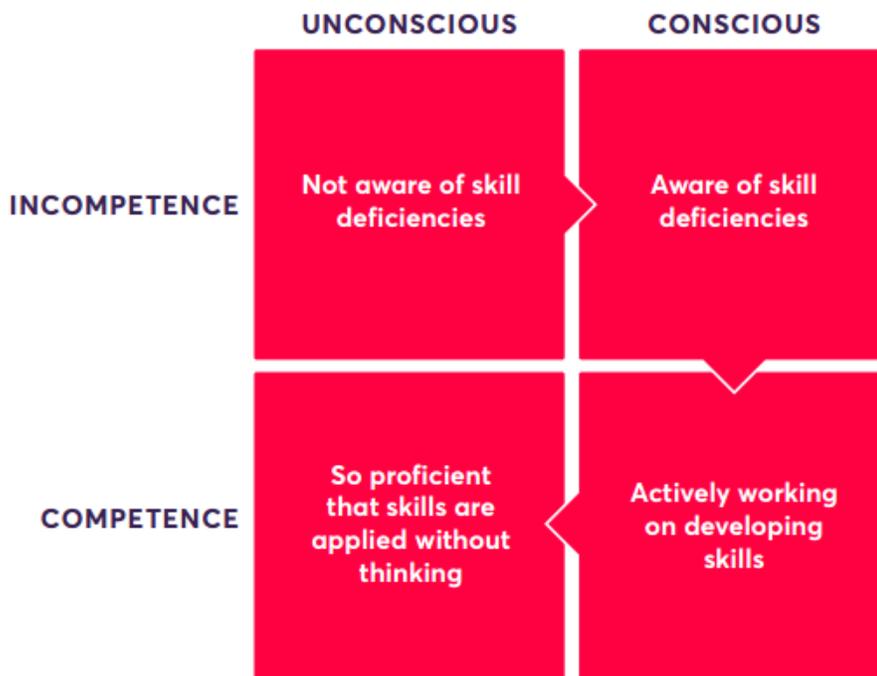
Background

We developed this diagram in the Innovation Skills team to articulate our approach to learning. Our pedagogy is an ongoing conversation, but we often come back to these principles.

2. Expertise levels

(Un)conscious - (in)competence

Four awareness and competency levels for developing learner profiles



What is this?

This diagram shows another way of looking at expertise levels, and contains four different levels that learners can pass through. These levels can be applied to specific innovation skills (e.g. storytelling) or methods (e.g. prototyping):

Unconscious - Incompetence: at this level, learners lack the skills and are not aware that they don't have them: "I don't know that I don't know how to do this."

Conscious - Incompetence: at this level, learners still lack the skills but are aware that they do not have them. They sense an urgency to develop them: "I know that I don't know how to do this, but I need to learn this."

Conscious - Competence: at this level, learners are actively working to acquire the skills that they have identified they are missing: "I know that I'm learning how to do this the right way."

Unconscious - Competence: at this level, the skills have become like second nature and the learner is able to apply them without thinking: “I did something well? I actually didn’t think too much about what I was doing.”

Why or how would you use it?

This diagram is useful for helping you develop a profile of the learners, in order to consider what your learning offer looks like and how you should pitch it. For example, when developing a learning journey, think about what level your learners are at and what activities might support them to move on to the next level.

Typical questions that prompt using this diagram

What level of expertise are your learners at? How can you make learners aware of what expertise they already have, and how to advance to the next level?

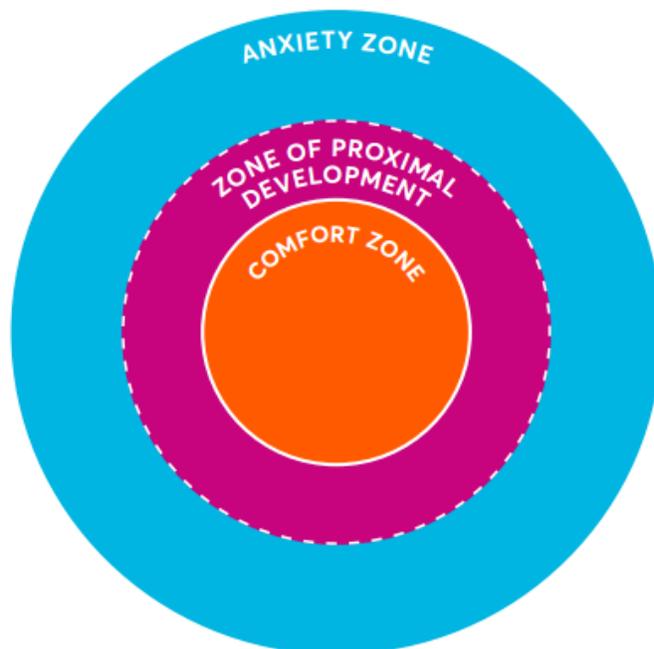
Background

This model was initially developed by Noel Burch in the early 1970s when he was working at Gordon Training International.

2. Distinction of Zones

Zone of proximal development (Vygotsky)

Pitching a learning offer at the right level; not too easy and not too hard



What is it?

This diagram looks at how to pitch and deliver a learning experience at the right level to help your learners get the most out of it. We describe this using three different zones:

Comfort zone: what a learner can do without help.

Proximal development zone: what a learner can do with help and guidance, through the support of a 'more knowledgeable other'.

Anxiety zone: where a learner is too far from their comfort zone and therefore cannot learn or do

Why or how would you use it?

Learning happens when learners are outside their comfort zone and they experience a certain level of friction. But you don't want to push your learners too far. Learning won't happen if learners are inside their comfort zone, but nor does it happen when they are confronted with a daunting task and experience anxiety. We often talk about innovation practice as a muscle, and that you need frequent exercise to build it, similar to lifting weights in a gym. If you stay in your comfort zone and don't exercise it all, you won't strengthen it – but at the same time, overworking or stretching it too far isn't helpful either. Instead, learning happens when it is pitched right in middle; getting learners out of their comfort zone but not pushing them into their anxious zone. This is the zone of proximal development.

This zone is dynamic; once learners have practiced and developed a new skill, it will eventually become part of their comfort zone.

When that happens they are then ready to progress to the next stage and advance their skills by tackling a slightly more complex challenge or receiving less support.

Typical questions that prompt using this diagram

Where should you set the bar? How far should you push your learners? What is the sweet spot between making an exercise too easy or too hard?

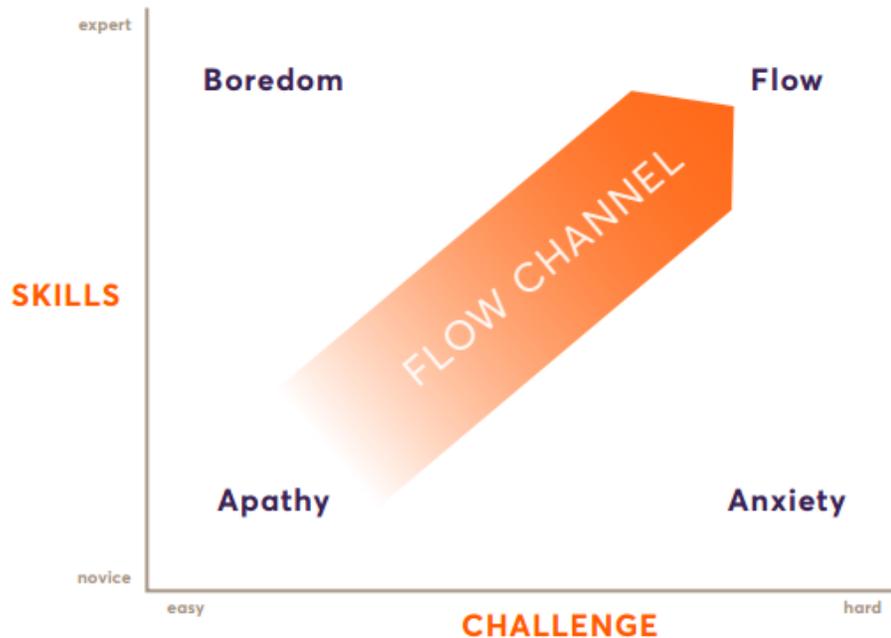
Background

The concept of the zone of proximal development was first introduced by Lev Vygotsky around 1920. Although its origin is based in developmental psychology and focused on how children learn, it is also helpful in adult learning to set out learning strategies and journeys.

3. Flow of learning experience

Flow: balancing challenges & skills (Csikszentmihályi)

Striking a balance between challenges and skills to create an immersive learning experience



What is it?

This diagram illustrates how to achieve the right 'flow' when designing a learning experience. Flow is the mental state in which learners are fully immersed in the process of learning – also referred to as 'being in the zone'. This flow is created in learning experiences by striking a balance between the skills a person has and the challenges they are given.

Why or how would you use it?

To create an effective learning experience – an experience that is neither too hard nor too easy – you have to consider current skill levels and align them with the challenge that the learners need to tackle. If you give a learner with low skill levels a complex task, it is likely to result in anxiety. On the other hand, simple challenges for more skilled learners will likely create boredom. We often use this diagram in conjunction with the concept of the 'zone of proximal development' (see page 40) in order to develop the right flow so that people can progress – moving from their proximal development zone to their comfort zone as they become practiced at using a new skill. Within a curriculum, this becomes a dynamic process where learners move through an ongoing cycle of skills development.

Typical questions that prompt using this diagram

How do you make sure learners are energized and not bored or distressed? How do you align learning activities with the skills that learners already have?

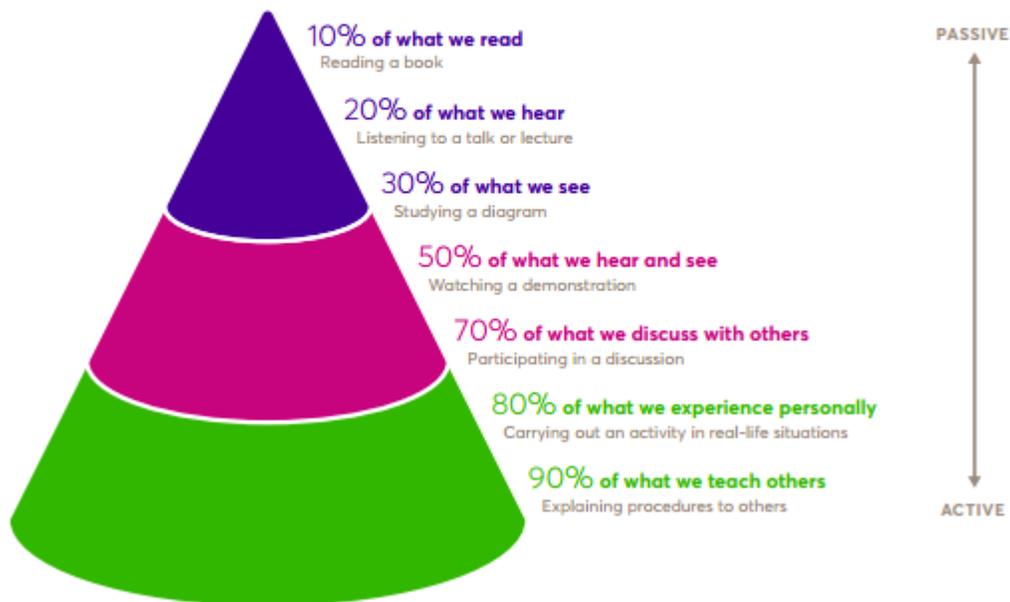
Background

The concept of 'flow' was developed by Mihály Csíkszentmihályi. It can be observed in many activities, e.g. playing a music instrument, doing sports, or playing a computer game.

4. Cone of Learning

Cone of learning (Dale)

A hierarchy of learning activities for considering their effectiveness



What is it?

The cone of learning represents an order of learning activities and indicates their effectiveness, ranging from conceptualization (through reading and listening) to concrete experience (through doing). The model suggests that learning activities that build upon real-life experiences are more effective, as opposed to using text and (visual/verbal) symbols as the source of learning. It is essentially a depiction of the old Confucian proverb: 'I see and I forget, I hear and I remember, I do and I understand'.

Why or how would you use it?

The diagram helps to explore different learning modes and shift the focus to more action oriented learning methods. We believe that active engagement with a subject is most effective to develop innovation skills. Retention of learning is best when people are actively engaged in a real situation. However, in our conversations with clients and colleagues, we often notice a tendency towards more conceptual learning; methods such as discussion panels or talks are often mentioned first. We use this model to help them consider a wider range of learning activities that are more fit to purpose.

Typical questions that prompt using this diagram

What kind of learning experience do you want to provide? Are you using the right learning method?

Background

The cone of learning was created by American educator Edgar Dale in 1946 and first appeared in a textbook on audiovisual methods in teaching. One of its main critiques is that it isn't grounded in robust evidence and it is often misinterpreted (e.g. Dale's original cone did not feature percentages). Despite this, we still consider it a helpful tool to prompt discussions about learning activities.

5.Competency framework for public problem solving



What is it?

This framework identifies the core skills and attitudes needed by public servants in order to experiment and adopt a greater range of innovative practices for public problem solving. We have attempted to provide a combined view on what it takes to set up and run explorative innovation processes, while also creating an enabling environment for innovation within an administrative and political context. The framework describes three core categories that – from our experience and research – are crucial to form the basis of successful experimental problem solving:

Accelerating learning: Exploring and experimenting to identify knowledge gaps, create new understanding and inform decision-making in new ways.

Working together: Engaging with citizens and multiple stakeholders to ensure co-creation and collaborative ownership of new solutions.

Leading change: Creating space for innovation and driving change processes to mobilise people, inspire action and ensure strategic outcomes.

Why or how would you use it?

We believe that problem solving is at the heart of how governments operate, and so we need to demystify how innovation approaches can be useful and what the relevant skills and competencies are in relation to problem solving activities. By framing our competencies around experimental problem solving, we try to emphasise how core attitudes and characteristics, in combination with key skills and competencies, enable behaviours that increase the likelihood of successful problem solving activities and better improve capacity.

We use this framework to explain what we mean by ‘innovation skills’ and to highlight the attitudes and mindsets that are needed for public innovation. We also use it to shift the focus from an individual using or learning one innovation method (e.g. human centred design) to a team using a wider spectrum of skills to effectively tackle complex issues. Future iterations of this framework should help to design innovation teams, shape HR strategies and recruitment, define outcomes for immersive learning programmes and develop tools for impact assessment.

Typical questions that prompt using this diagram

What skills and attitudes are essential for government innovation? What attitudes should you look for when recruiting a team? What skills should you develop?

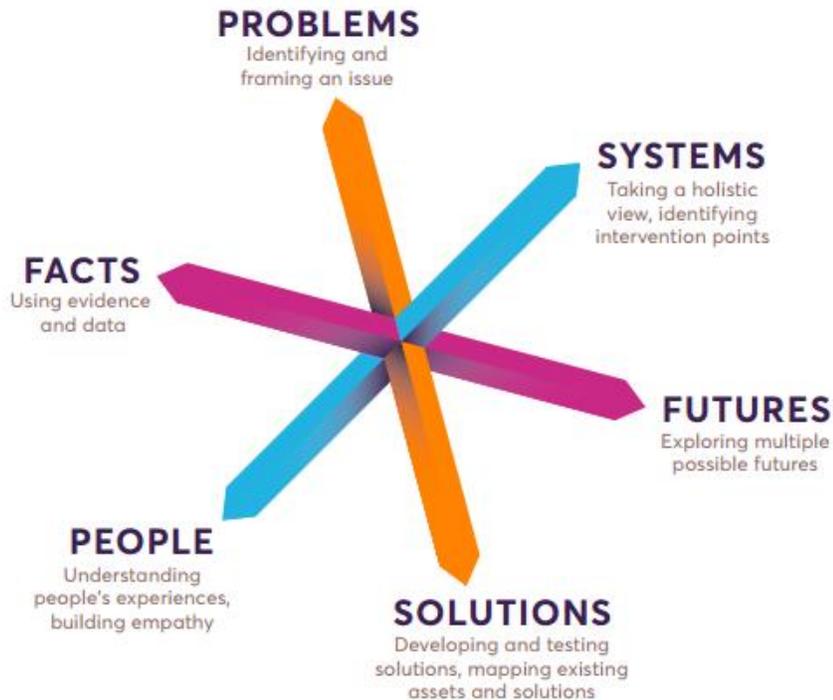
Background

This framework is an initial overview and the first step in our process of understanding, reflecting on and assessing the key attitudes and skills that we consider crucial for public sector innovation. In order to develop this framework, we have used the experience of the Nesta Innovation Skills team, complemented with our insights from a study on the experiences of 30+ leading public sector innovation practitioners from around the world. These insights were subsequently tested with selected governments and innovation experts to ensure accurate representation, relevance and usefulness. The framework is a work in progress and part of our public innovation learning programme.

6.Principles of Innovation

Principles of innovation

Shifting the focus from only methods to habits and mindsets



What is it?

This diagram lays out our six principles of innovation. We see these principles as habits and mindsets that are essential to policy or programme design activities. They help change how we perceive and frame reality, and prompt us to explore different solution spaces and prepare for multiple futures. They offer various perspectives on an issue, and help to identify knowledge gaps, challenge assumptions and generate richer understanding in order to make better informed decisions.

The principles cut across various innovation methods (e.g. design thinking, systems thinking, futures and foresight, evidence based policy making) and are used throughout the innovation process.

The challenge is to effectively manage the dynamics between opposing mindsets, skillsets and ways of acting. This diagram represents that dynamic, and illustrates the tensions between three pairs of principles.

These pairs are:

People and systems: these involve the dynamic of zooming in and out between people's needs, and the wider system to understand problems and solutions from different perspectives and levels. This dynamic builds on a range of activities, varying from ethnographic techniques (e.g. interviewing, observations), to stakeholder analysis and network mapping, to modeling and mapping systems.

Facts and futures: these draw on the tension between past, present and future. Decision making is informed by toggling between using evidence and data, and being imaginative and exploring multiple possible futures. Activities vary from using data analytics to identify trends, to using storytelling techniques in order to generate new understanding. On one hand, rigorous experimental methods such as RCTs are used to validate solutions and to build a solid evidence base. On the other hand, foresight, horizon scanning and speculative design are used to explore and create visions of multiple possible futures.

Problems and solutions: these involve the interaction between problems and solutions, and how switching between the two helps to better understand the nature of a challenge, as well as identifying opportunities for change. They build on a range of activities, including: root cause analysis, problem framing and reframing, prototyping, co-creation, and user or community led approaches (e.g. solution/need pairing, positive deviance).

Why or how would you use it?

Every innovation method has both strengths and weaknesses. Design thinking, for example, focuses largely on understanding people, systems, and identifying problems and solutions. But it is less strong on using data analytics to explore trends, setting up trials to validate solutions, or exploring multiple possible future scenarios. To compensate for such deficiencies, we often see that innovation practitioners use a mix or hybrids of innovation methods. The breadth and variety of these methods are brought back to their bare essentials and captured in this diagram.

This diagram aims to challenge the natural inclination of innovation practitioners towards a specific method, and to stimulate discussion and reflection to look beyond mere methods, shifting the focus to principles.

We also use these principles as the basis for our learning programmes (see page 56 - taxonomy of innovation methods). They help us structure our learning activities and make sure that learners are equipped with a well-rounded set of competencies.

Typical questions that prompt using this diagram

How might you challenge personal biases or preferences towards a specific innovation method? How might you point out the strengths or weaknesses of a method? How might you shift the focus from methods to principles?

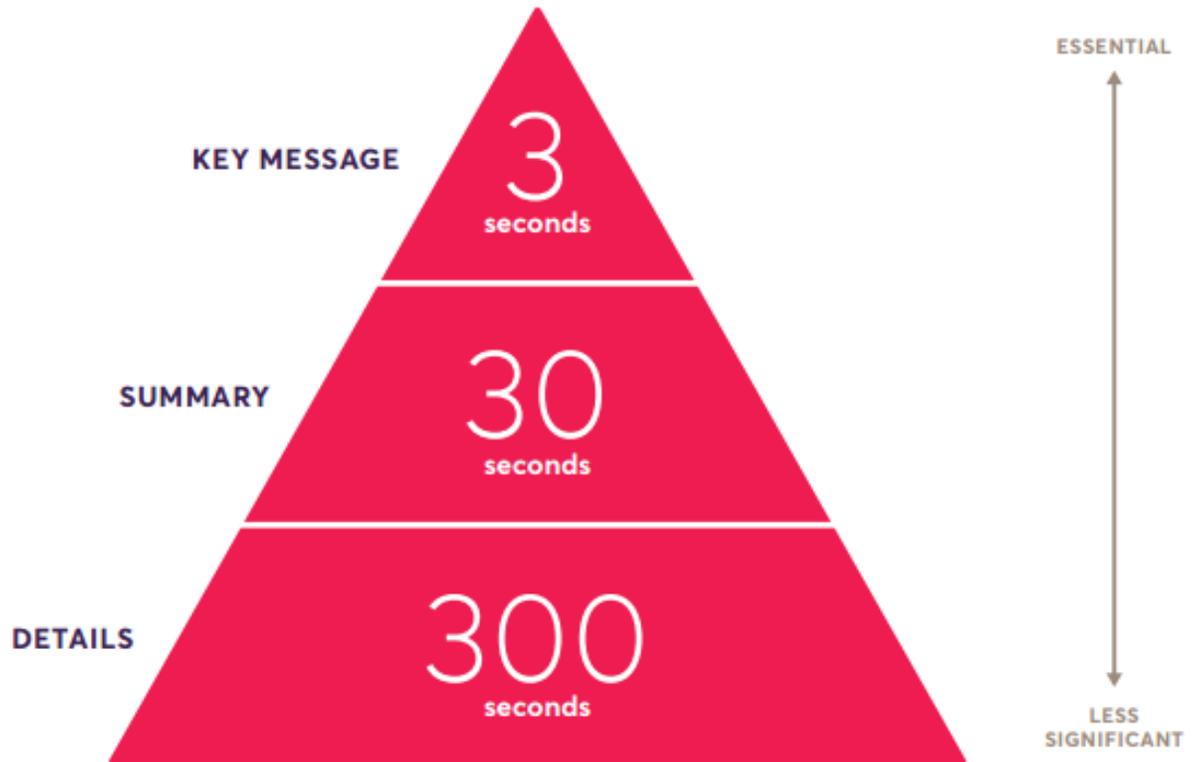
Background

We have extracted these key principles from a range of methods (see page 52 - landscape of innovation approaches) that we consider essential for teams to do innovation projects in an experimental way. An early version was developed for the work we did with UNDP for the 'Project Cycle Hackers Kit' and our thinking around these principles was further shaped as we developed our competency framework for experimenting and public problem solving.

7. 3-30-300 second rule

3-30-300 second rule

Guidelines for structuring information and making communication more effective



What is it?

The 3-30-300 second rule diagram helps to prioritise and structure information in order to make sharing it more effective. It gives guidance on how to shape your messaging and it can be applied to a variety of communication means e.g. designing your slides, writing an article, sharing research results, designing a poster, presenting a concept, etc.

The idea is to organise and present your information in three tiers. Each tier represents the amount of time needed – as an estimate or rule of thumb – to read or process that information.

3-second tier: the top level message or headline. This could include a short sentence, statement, quote or even a diagram or photograph. You should put this main message up front and draw attention to it so that it's the first thing people look at. Make it captivating and punchy – less is more at this level.

30-second tier: the summary. This introduces the topic or main point you want to make. It's purpose is to quickly inform – like with an elevator pitch. Your summary could be a few lines of text, supported with visuals (e.g. diagrams, models, photographs). In visual terms, this tier is less important than the 3-second tier but should still be prominent. It should visually be the next logical step to explore your information after the 3-second tier.

300-second tier: the details. This contains your data and evidence to explain and underpin your main message. It might include tables with data, quotes, photographs, diagrams or models to build your argument. Consider this layer as a source of inspiration that helps others to explore your ideas and findings. This tier will be the least important visually, but should still be accessible and readable.

Why or how would you use it?

We often use this diagram in conversations with our clients to help them shape their messages, or to prioritise information for learning design. Using the 3-30-300 second rule as a constraint helps you to make decisions about what is important and drill down to the essentials.

The diagram is particularly helpful when you present research results to senior leaders or other stakeholders. It helps share key findings in a short amount of time, but offers the possibility to explore more details when required.

We also use this approach to design slide decks. It stimulates you to really consider what you want to say, and not to clutter your slides with less relevant details. We often limit ourselves to the 3 and 30-second tiers, as the 300-second is adding too much information for a slide.

Typical questions that prompt using this diagram

How might you structure your information and communication? How do you prioritise your messages?

Background

The idea of the 3-30-300 second rule was developed by Pieter Jan Stappers, a professor at Delft University. He recommended it to his students as a guide for presenting back research results in an oral presentation or as an academic poster. The diagram has similarities with the 'inverted pyramid' that is often used by journalists to structure their articles, and the 'Minto pyramid' that is used by consultants to structure their thinking and communication. It also has elements of the AIDA model (Attention, Interest, Desire and Action). What makes the 3-30-300 second rule slightly different from these models is that the time constraint serves as a practical stimulus to shape your messages.

8. Basic model design

Basic model of design

A basic change process that can bring clarity when conversations get cluttered



What is it?

The essence of design is to initiate change, and its aim is to transform an existing situation into a preferred one. This diagram represents this as a basic process of design. Every design – and change process – starts from this premise.

Why or how would you use it?

We often use this diagram when (strategic) conversations get cluttered in order to go back to the very essence of what we are trying to achieve. Referring to this diagram helps to bring everyone back to the same page and provides clarity and purpose to a meeting. It poses three questions that can help structure strategic thinking: What is the current state? What is the preferred future state? And how might we achieve that future state? This diagram can be used in multiple ways. We have used it when helping teams set up innovation labs, we have used it numerous times to clarify a learning strategy with our clients, and we have used it in our learning sessions to support learners to take a step back and reflect on the wider innovation process.

Typical questions that prompt using this diagram

What are you trying to achieve? What is the current situation? How are you going to transform the current situation into the preferred one?

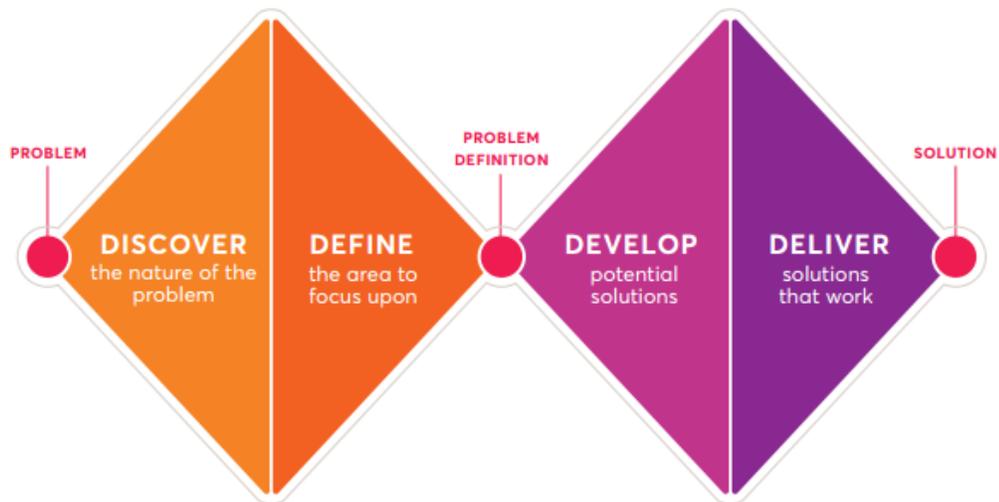
Background

Jay Doblin first presented this model in his paper 'A short, grandiose theory of design'. Although its origin is uncited, it is apparently inspired by Herbert Simon's definition of design: "Everyone designs who devises a course of action aimed at changing existing situations into preferred ones".

9. Double Diamond design process

Double Diamond design process (Design Council)

An archetypical design process that explains its practice and value



What is it?

There are many different diagrams that represent the design process, but they all tend to have several key activities in common. The Double Diamond, created by Design Council, is a useful one for describing the process of design and explaining its value.

It is an archetypical design process that includes four phases:

Discover: The process begins with examining the nature of the problem by trying to look at it in new ways and gathering insights.

Define: Once you have generated these new insights, you then narrow down and define an area to focus on. Develop: Next, you move on to generating ideas, exploring potential solutions and testing out multiple possible solutions.

Deliver: Once you have identified the best solution, you then move into planning how you will deliver it.

Why or how would you use it?

The Double Diamond demonstrates the value of both divergent and convergent activities; opening up a problem and then narrowing down again, opening up ideas for solutions and then narrowing down again. Both activities are crucial. We often see that people begin with a defined problem; they believe that they already know what the problem is. A core element of design however, represented in the Discover phase, is taking a step back and exploring the problem. Although you might think that it is clearly defined, if you go through the Discover process you might find that the nature of the problem is different, particularly if you look at it through the perspective of people. Exploring how people experience problems in their everyday lives can give you very different viewpoints on them, and therefore different solutions. Although this diagram suggests that the design process is a linear sequence of steps, you might find yourself jumping back and forth between the stages. For example, you might unpack your problem area, define your focus and then build a prototype, but discover that some knowledge is missing that means you need to go back to the discover phase. This is where the principle of iteration is important (see page 70), and that by iterating and improving you will ultimately come up with a better design.

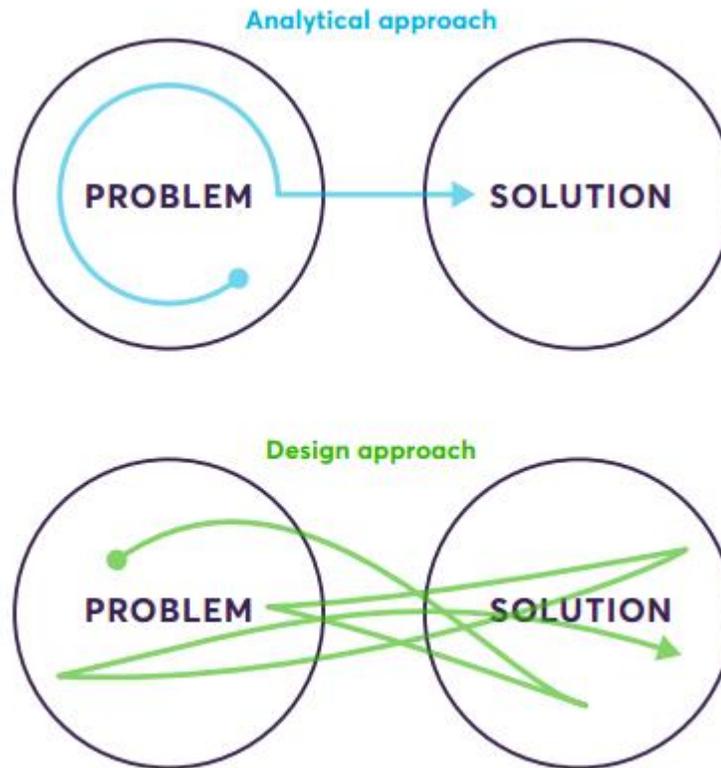
Typical questions that prompt using this diagram

What are the key stages of a design process? How does that relate to your activities? How should you plan your activities? Where are you currently in the process?

Background

The Double Diamond was developed by the Design Council in 2005. Since then it has been used by many design agencies, practitioners and scholars to describe and structure their practice, and some have even developed their own variation.

10. Analytical approach



Adapted from Quaggiotto, Leurs & Hazelidine (2016)

What is it?

This diagram explains the relationship between problems and solutions. In a traditional analytical approach, a lot of time and energy is spent analysing the problem so that once the root cause is understood a solution can be developed. Often this solution will be launched with a one-off, 'big bang' implementation. With a design approach, you might start with the problem and then quickly develop a solution. Instead of overanalysing the problem, you start testing out solutions and take that first jump from the problem space to solution space to see how the world reacts to your idea. This helps to test your assumptions about what works, and the real nature of a problem can often reveal itself once it is put into a solution. You can then go back to redefine the problem and create a new solution, moving back and forth between the two. This is the essence of prototyping; accelerating learning about the problem and solution at the same time.

Why or how would you use it?

This diagram can be used to explain the nature and value of iteration and prototyping; whereas an analytical approach focuses on defining the problem first, a design approach focuses on coevolving both the problem and solution space together. We often find that people are more comfortable with an analytical approach, whereas a design approach is unfamiliar, and at first it can be quite difficult to get out of the analytical mode of thinking. We also find this diagram helpful to demonstrate the value of being agile – that your process doesn't need to follow a linear sequence of steps, and that by moving between the problem and solution you can understand both better.

Typical questions that prompt using this diagram

What does iteration look like? What is the value of iteration?

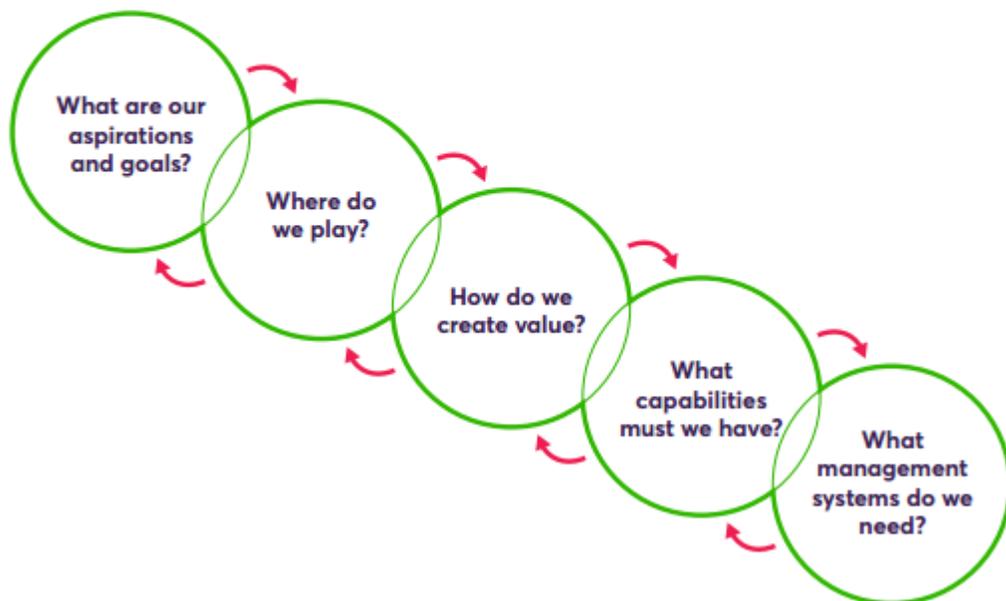
Background

This diagram is a visualisation of the concept of 'co-evolution of problem-solution', a process that was first described by Kees Dorst and Nigel Cross 70 and further explored by Dorst in his paper 'The Problem of Design Problems'.

11. Five strategic questions

Five strategic questions (Lafley & Martin)

A framework with five fundamental questions for strategic decision making



What is it?

This diagram presents a straightforward yet comprehensive framework for developing a strategy for your (innovation) team or organisation. It builds on the premise that strategy is about making 'choices': what you will do, and what you will not do. It involves five questions that prompt you to consider key fundamental choices.

1. **What are our aspiration and goals?** What are we trying to achieve? What does our desired future look like?
2. **Where do we play?** What problem areas, domains, audiences, regions are we focusing on?
3. **How do we create value?** What public benefit are we creating? And how do we create it?
4. **What capabilities must we have?** What do we need to create value? What skills and capabilities do we need? What does our team design look like?
5. **What management systems do we need?** What systems enable the team to generate value? How do we assess impact? How are we being held accountable? The diagram is designed for developing strategic capability throughout an organisation. It should enable strategic thinking at all levels of an organisation 90 – no matter the size, type or context of an organisation.

Why or how would you use it?

Strategy often connotes planning, 91 which can seem like a straightforward process – at least on paper. When dealing with complex issues or dynamic external environments, however, having stringent plans means that a strategy can lack the agility to adapt to new or unexpected situations. What is interesting about this diagram is that it is an interactive model; it considers strategy as a dynamic process where you continuously consider these five aspects, and give ongoing direction to your team and organisation in order to remain relevant and generate impact. This means that you can move back and forth between the questions. And once you have gone through them all, you will likely need to go through them again to make sure they are still aligned. We use this diagram in strategic conversations with clients, for example when helping them to set up an innovation lab. It is helpful to go through it and discuss a strategy over a few hours, focusing on the very essentials. We also use it ourselves for our own team strategy. We frequently – every six or twelve months – reflect on these questions to verify if we are still on track, and whether we need to revise our strategy or pay more attention to executing it. We have discovered some other uses for it too. As well as using it for developing a team or organisational strategy, we also use it for developing learning strategies. It requires some slight adjustments, but most of the structure still holds.

Typical questions that prompt using this diagram

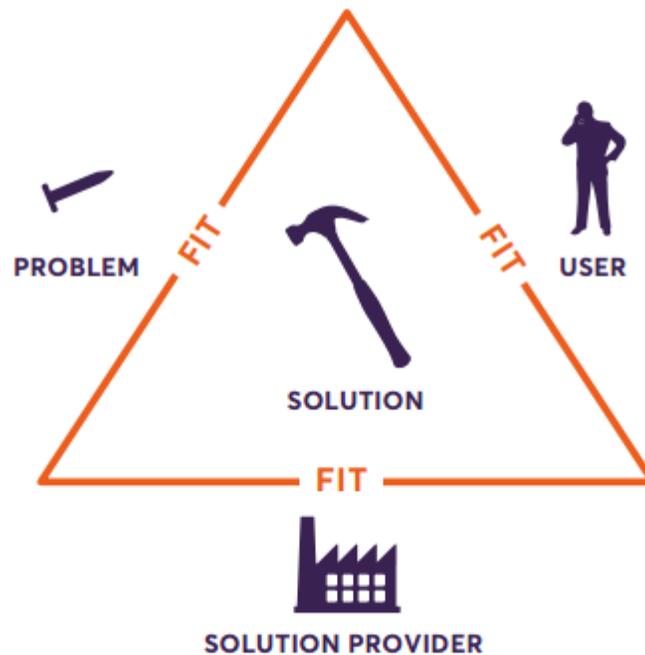
What are you trying to achieve, what change do you want to create? What do you need to do to make that happen? What shouldn't you be doing?

Background

This diagram was originally developed by A.G. Lafley (former CEO of Procter & Gamble) and Roger Martin (Professor of Strategic Management at the Rotman School of Management) and discussed in their book 'Playing to Win: How Strategy Really Works'.⁹² The book focuses on strategy development for commercial enterprises – which explains the reference to 'winning' in the title. With some adaptations (e.g. changing 'winning' to 'creating value') it can be used by non-commercial and public sector organisations as well

12. Purpose of design

Purpose of design: creating a more appropriate fitSM
 An overview of the key elements of design for explaining its essence and key principles



What is it?

There are many ways to describe design, but to understand its value and principles it is helpful to look at its purpose. The concept of 'fit' is key to design activity, as design attempts to generate a fit across a number of different elements. This diagram illustrates these connections, which include:

1. Solution-problem fit: The solution should provide the right fit for the problem. For example, if the problem is how to drive a nail into a wall, then a hammer offers a good solution, or 'fit'. But if we want to put a screw into the wall, it's a less appropriate tool. In that case, a screwdriver would offer a better fit.

2. Solution-user fit: The solution should fit with the user's physical and cognitive capabilities, preferences and needs. For example, a trained craftsman who regularly uses carpentry tools is likely to have different requirements to a layman who may only use them occasionally.

3. Solution-provider fit: The solution should fit with those who are going to provide it, the solution provider(s). A solution that has a perfect fit with the problem and end user, but that is costly to create or complicated to deliver, is unlikely to be sustainable. This diagram is, of course, a simplified representation and it doesn't take into account the complexity that surrounds these elements in reality. But it is still useful for understanding the key relations around the concept of 'fit'.

Why or how would you use it?

We often use this diagram to help learners understand the fundamentals of design. The metaphor of the hammer and nail seems to resonate well with our audiences. The diagram also helps learners to translate the idea of 'fit' to other areas that involve design activity, such as policy making. Take, for example, the problem of growing childhood obesity. A government might tax sugar-sweetened drinks as a policy intervention to tackle this issue. But how does this fit with the motivations and everyday routines of children? Will it change their behaviour? And how does it fit with government processes? How will this policy be enforced, and what departments will need to collaborate on it? How much manpower will it take? Bear in mind that design doesn't try to create a perfect fit across all three dimensions; rather it aims to create a fit that's good enough. In order to do that, there are four principles that help generate this fit and that everybody can learn and use: empathising, iterating, collaborating and visualising. We often use the 'fit' diagram as a segue to introduce these principles to our learners.

Typical questions that prompt using this diagram

How would you describe the purpose of design in just a few words? What makes a good design solution?

Background

The idea of fit was inspired by a blog post by Bret Victor on the future of interaction design. He focuses on the fit between tools, human capabilities and human needs. We expanded on this concept and used it to explain the relationship between solutions and problems (exploring the effectiveness of a solution), solutions and users (exploring the suitability of a solution) and solutions and the providers (exploring the viability of a solution).

C. Observation Protocol Template

Code:	Reference audio/video record:
Date:	Start time: Finish time:
Title of event/observation opportunity:	
Goals	
Physical surroundings	
Characteristics of participants (individually and as a group)	
Facilitation	
Interactions (collective)	

Nonverbal behavior
Direct quote(s)
Other observations

D. References

Altran (2016). Catalog of Methodologies, Techniques and Tools for Co-Design.

Nesta (2018). Playbook for Innovation learning.

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Pathways Network (2018). T-Labs: A Practical Guide - Using Transformation Labs (T-Labs) for innovation in social-ecological systems, Brighton, UK: STEPS Centre. Retrieved from <https://steps-centre.org/project/pathways-network/>