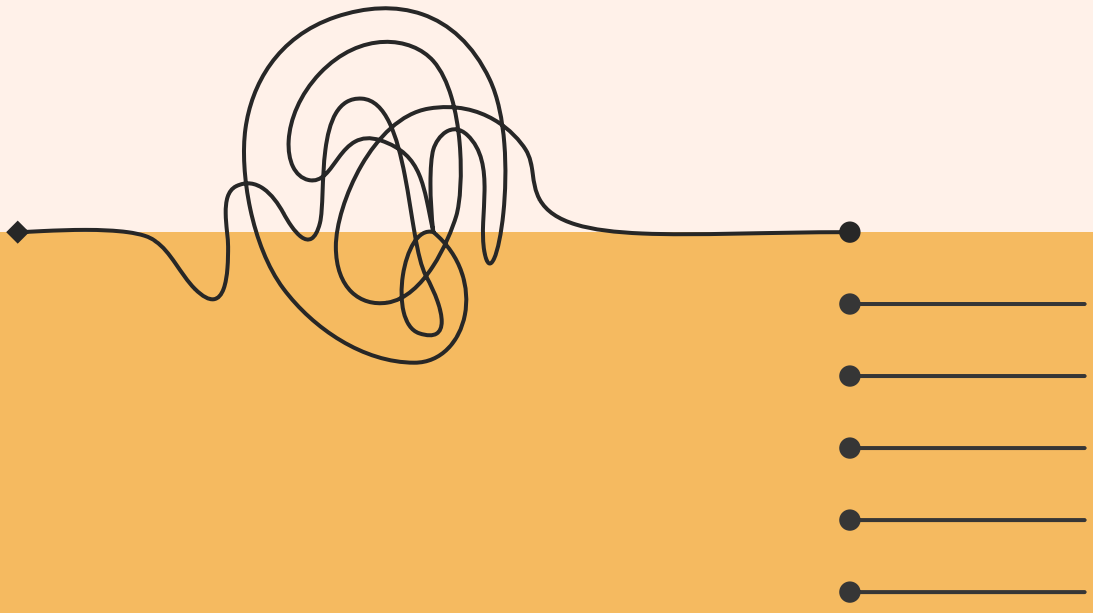
Design meets Policy:

Introducing a design orientation to improve policymaking practices at the European Institute of Communication and Technology (EIT) headquarters.



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Master of Arts thesis abstract

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Abstract

In light of the constantly evolving and 'wicked' nature of today's problems, the field of policymaking ranks among the most volatile, as policies are expected to mitigate any disruptions and establish structures that foster innovation. In contrast, the paradigms designed to create these policies are based on ideas of predictability and permanence.

Frameworks from various fields of design, on the other hand, are modeled to thrive in uncertainty. As a result, this thesis attempts to investigate the juxtaposition of practices in the fields of design and policy in order to identify the most essential design theories to empower contemporary policymaking.

This attempt takes place in the context of the headquarters of the European Institute of Innovation and Technology (EIT), an institution whose policymaking capacity influences a large innovation community across all of Europe. Following consultation with relevant officers and internal policy experts, a general policy process within the EIT is outlined. Opportunities for improvement in this process are identified and adopted as the foundation for further research.

A design-driven policy approach is introduced as a result of a qualitative study of the learned experiences of five design experts working in the realm of policy. A narrative is also provided, outlining the why, what, where, and how of using the approach. Three alternative policy scenarios are proposed to provide the EIT with a more contextual understanding of this approach and to serve as a foundation for action within the institution.

These scenarios are centered around the most relevant design discourses revealed in the research. They promote bottom-up participatory policy formulation, ecosystem analysis and knowledge cross-pollination, and speculation concerning future disruptions.

Keywords Design-driven policymaking, participatory policy, futures thinking, systems thinking

CONTENTS

1. ACKNOWLEDGEMENTS

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2. INTRODUCTION

2.1 Motivation for this study

Policy and Governmentality for me, like many others, had always been distant phenomena. It is something that is inevitably a part of all strategic design work on some level, but this is often a level that we, as designers have been conditioned to steer clear of due to its complexity and due to us having little to no real influence on it.

In so many of the projects I've worked with recently, especially ones that deal with transitions (social or corporate) and societal trends and wicked problems of any nature, there are plenty of big, bold, and radical ideas during the conceptualization stage. But, when it comes to putting these ideas into action, often these bold ideas take a back seat whilst using the statement 'but that is a policy problem' as an excuse and pushing forward safer, more immediately implementable ideas that live within digital products and other existing mediums.

This is when my interest in topics such as policy design and corporate activism peaked, and I started looking at Design's influence on this level of the system more seriously. This influence, however, is not straightforward, lacks a crystal-clear definition, is not proven to be quantifiable, and is a slow one to reveal results. But if Policy is an area that hinders the implementation of radical ideas and slows down progress, changing this impact seems like an urgent necessity. And the best kind of Design, in my opinion, is one that addresses necessities and not one that simply drives engagement and consumption.

Moreover, in the landscape of innovation today, Policy is no longer independent of design solutions. For radical ideas to be actualized, they need to be accelerated systematically by the means of policies. Alongside social problems and governments, I was always curious to study the corporate organizations' role in furthering positive change. Getting a chance to work with the European Institute of Innovation and Technology (EIT) which is a public-private organization in practice has been the perfect opportunity to tie all these interests together and create a body of work that aims to answer a few challenging questions that look at redefining the impact of both Design and Policy in the context of innovation.

2.2 The case – European Institute of Innovation and Technology (EIT)

This thesis is done in collaboration with the (EIT) European Institute of Innovation and Technology's headquarters based in Budapest. The EIT is an independent EU body that aims at strengthening innovation capacities across Europe. They do so by establishing Knowledge and Innovation Communities (KICs) that deal with specific global challenges. For example, EIT Health, EIT Digital, EIT Climate, EIT Innoenergy, etc. These KICs are comprised of leading businesses, education, and research organizations, and start-ups that strive to develop innovative products and services, create new companies, and train young entrepreneurs in turn creating new jobs and accelerating Europe's growth.

2.2.1 Structure of the organization

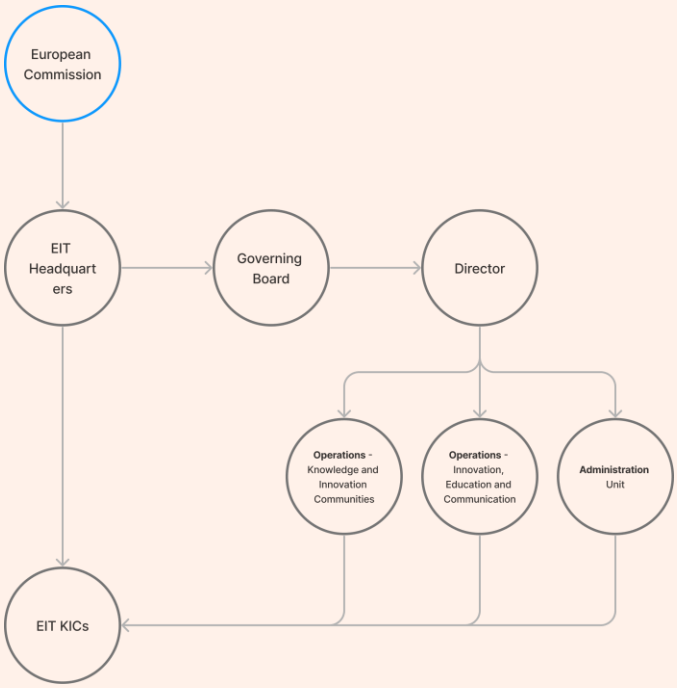


Figure 1: Structure of the organisation

Figure 1 is a high-level overview of the EIT's organisational structure. A more detailed representation can be viewed on the institution's official pages.

Although the EIT is an independent EU innovation body, its activities are heavily influenced by the strategic agendas of the European commission. This means all activities currently undertaken by EIT and its KICs comply with and advance the strategic goals of the 'Horizon Europe' agenda.

The EIT is led by a 12-member governing board showcasing prominent expertise from higher education, research, business, and innovation. This board is responsible for steering the strategic and operational activities of the organization. In parallel is the management team led by the EIT Director that looks over two operational teams and an administrative one. The first operational unit is focused on the KICs and looks at supervision and monitoring of

the KIC's work and overviews of the implementation of grants. The second operational unit is focused on Innovation, Education and Communication and encompasses an innovation ecosystem unit and a unit working with communication and engagement of the EIT with its stakeholders.

2.2.2 Governance of the EIT headquarters

Whilst still being part of the EIT, all the Knowledge and Innovation Communities (KICs) are set up as independent bodies. Hence the EIT headquarters with its operational and administrative units work towards 'steering' the KICs to produce intended results as represented in 'Horizon Europe' instead of 'regulating' or 'governing' them. They do this by creating innovation programs, awarding the KICs with various grants, and breaking down the European Commission's strategies into actionable policies to influence the work of the KICs.

The EIT headquarters is a liaison between the European Commission, the governing board, and the KICs. It is responsible for finding a compromise between the demands of the core legislators, the concerns of the KICs, and the strategic desires of the board and bringing all this together in a single document making it as clear as possible to follow.

The EIT has a seven-year strategic document that acts as the primary blueprint for all policies and other activities. However, this strategic guidance does not necessarily dictate what the KICs should do, it allows a high degree of flexibility. 'It is fully in line with the EIT'S innovator knows the best model, which I think is pretty unique in terms of the EU Framework Program. It allows the KICs to implement activities in line with their own strategic priorities, with their own realities, with the needs on the ground.' (Incorvaja, 2022)

This model is also reflected in policies designed by the EIT headquarters. "Our policies have more of a guiding nature. They take on board what the Commission has in their policies and then localize them on an EIT level." (Vizitiu, 2022)

2.3 Research questions

This thesis began with the hypothesis that while the fields of design and policy share the goal of improving citizens' lives and experiences, they do so in vastly different ways. Recent research has shown that applying design mindsets to policymaking results in more positive and resilient decisions.

In line with this hypothesis, a case was outlined with the European Institute of Innovation and Technology headquarters in which a study of their current policymaking/drafting process would be conducted and ways to deploy design mindsets to create a greater impact would be identified.

The research questions set to achieve this were:

How can a design mindset assist the EIT headquarters in developing more effective policies?

How can we develop design-oriented policymaking and implementation processes to improve the EIT's resource efficiency?

3. LITERATURE REVIEW

This chapter briefly describes policy-making as a practice, the processes used to realize it, the gaps between these processes and current policy needs in society and places a design mindset and methods within the context of this process.

3.1 What is policymaking?

A policy is a phenomenon that is omnipresent in our civilization's everyday happenings. One that is consciously or unconsciously being realized and is as in proximity, as it is distant, to the everyman.

A policy is defined by (Oxford, n.d.) as 'a course or principle of action adopted or proposed by an organization or individual.' And policymaking as 'the formulation of ideas or plans that are used by an organization or government as a basis for making decisions.'

As direct as that seemingly sounds, the practice of policymaking has adopted ideologies from multiple disciplines such as philosophy, psychology, sociology, and political science. Policymaking is a complex activity and due to the lack of a simplistic view, does not have a famously agreed-upon definition for the practice.

Policymaking as a practice is almost always understood as the scope of work of governments, but this thesis looks at it in the context of a public-private organization - the European Institute of Innovation and Technology. Due to the similarities in processes between the two and their popularity in the area of research, this study heavily draws references from policymaking in governments and independent policy labs alike.

To better understand the distinctions between the types of policy institutions, I refer to this description by (Howlett, From the 'old' to the 'new' policy design: design thinking beyond markets and collaborative governance., 2014), 'Many organizations and actors create policies, but "public" policies are made by governments, and the 'actions' we are concerned with in this case are government decisions to act or not to act to change or maintain, some aspect of the status quo. He also points to a 'particularly succinct formulation' of the definition of public policy by Thomas Dye who defines the idea as 'anything a government

chooses to do or not to do' (Dye, 1972: 2)' (Howlett, 2014) This statement, although facile, holds true for governments and private organizations alike.

3.2 The traditional policymaking process

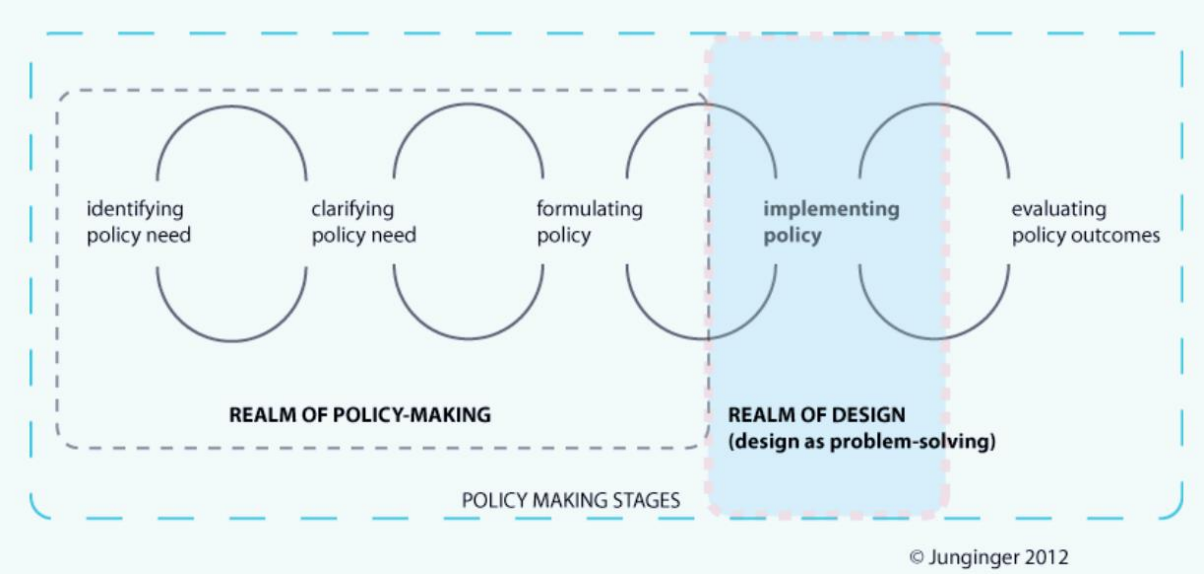
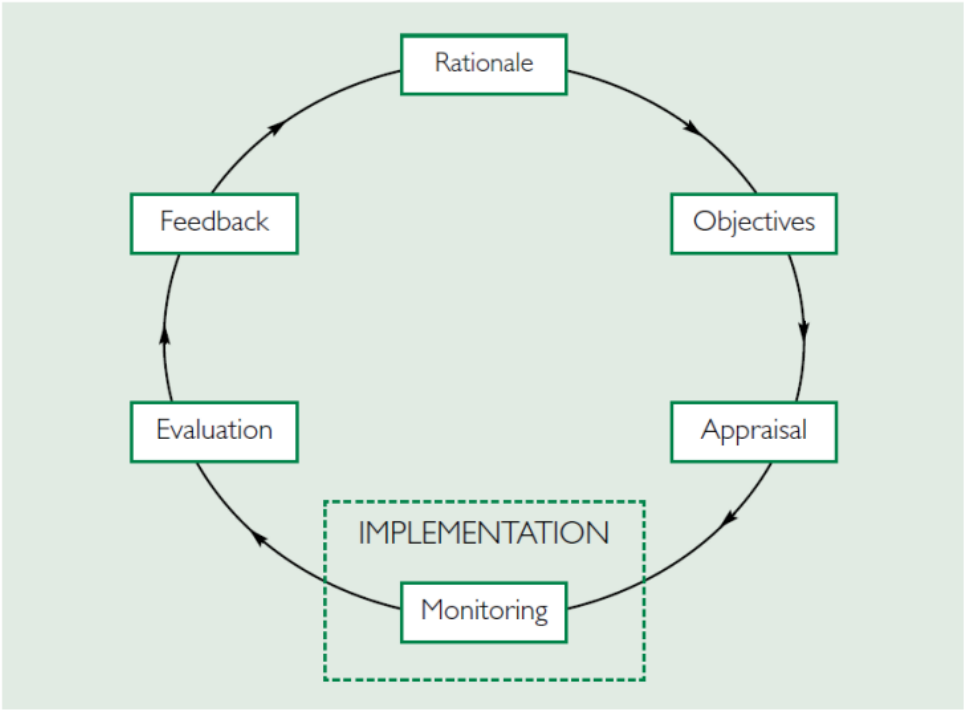


Figure 2: The policymaking cycle adapted by (Junginger, 2012)

This is the policy cycle adapted by (Junginger, 2012), originally outlined by (Howlett & Ramesh, 2003) The policy cycle is not an ultimate but a general default for most policy drafting processes. This is a model that has received plenty of criticism from policymakers and designers alike.



Source: HM Treasury, The Green Book, 2003

Figure 3: The ROAMEF Model from (The Green Book, 2003)

The ROAMEF model is another traditional approach used by policymakers worldwide that is built on similar principles of the former policy stages approach.

Although processes of this nature are the general norm for policymaking practices, they are not necessarily the most effective ones in most contexts, and here are some reasons why:

From the policymaker's perspective, the first argument is that policymaking is by no means a linear practice and most of these stages are realized in parallel rather than in a clear successive format. In a report for the Institute for Government, (Hallsworth, Parker, & Rutter, 2011) outline four realities that question the effectiveness of these approaches (the *ROAMEF model* in this case)

- ***'Policy making does not take place in distinct stages'*** - Here they argue that the journey from problem identification to policy implementation is not sequential. Existing plans might be used before the problem identification even takes place, for the sake of convenience perhaps, which can lead to flawed solutions. They also highlight the significance of 'direct exploration' where clear goals and iterative discussions to achieve them are encouraged.
- ***'Policies need to be designed, not just conceived'*** – This claim highlights the *lack of structure and systematic support for prototyping and testing in the policy process*. (Hallsworth, Parker, & Rutter, 2011) also argue that in complex modern governance, it is impossible to design perfect policies that are immune to changes. Hence, the

policymaker's (and implementers') capacity to adapt to changing circumstances is deemed crucial.

- ***'Policy making is often determined by events'*** – Here they outline the influence of external events or self-generated ones on the policymaker's decisions. For example, over-hasty announcements to capture the news agenda and generate headlines, etc.
- ***'The effects of policies are often indirect, diffuse, and take time to appear'*** – This point interprets the current structure's idea of policy as a discrete intervention to tackle a specific problem whose effects can be measured and evaluated. The results of policy interventions are often complex, wide-ranged, unintended, and difficult to measure and attribute. Policy is the cumulative impact of many different initiatives in a particular area, and it is about managing a wider system. It is not an intervention that can achieve a goal independently. Therefore, (Hallsworth, Parker, & Rutter, 2011) highlight the importance of redesigning the policy process to capture those impacts and be sensitive to other, interlinked policies, in order to understand their real impact.

From the designer's perspective, the common consensus amongst most designers, in research and in practice is that Design is currently just viewed as a service or a tool that comes in at the very end of this policy process and is applied within the realm of policy implementation, be it as a means to design products or services or communication artifacts. A lot of existing research points towards a reduced potential of design approaches when denied a central role in the early stages of policymaking.

As (Junginger, 2013) argues in reference to the *policy cycle model (figure 2),* 'What happens or needs to happen for a policy need to be identified remains in the dark. The design of policies in this model does not allow for future-oriented envisioning. Instead, policymaking is a responsive action after the problem has been identified. This limits innovation across policymaking and policy implementation.' She also identifies the missing 'Fuzzy front-end' right before the problem identification in the cycle and highlights the significance of imagination and future envisioning at this stage**.** (Junginger, 2013)

The policymaking process, just like a design-driven one is argued to be non-linear, agile, iterative, and fuelled by uncertainty. This fundamental familiarity is what has peaked so much curiosity for researchers studying the possibilities of Design as an alternative approach to policymaking or in its essence popularizing policymaking as a Design activity. However, these are statements that are often selectively found in research that adopts a 'design-centric' lens. This thesis isn't trying to justify design approaches as a replacement for the policy-making process. The attempt is to simply highlight logics that translate positively through the two domains and bring elements of radicality and creativity to the policy process to help it manoeuvre rapid innovation and transitions of our time.

3.3 The introduction of design practices in policymaking

Policymaking has historically been referred to and represented as a clear-cut, decisive process, and designing policies based on models that are drawn on these norms makes them prone to inefficiencies. (Clay & Schaffer, 1984) rightly contradicted these ideas by claiming that, 'The whole life of policy is a chaos of purposes and accidents. It is not at all a matter of the rational implementation of the so-called decisions through selected strategies.'

Chaos and uncertainty are virtues of most modern societal problems that policy tries to conquer and Design methods are increasingly understood to be effective in tackling this very ambiguity. 'Design thinking is increasingly being looked to by organizations who have a need to broaden their repertoire of strategies for addressing open-ended and complex challenges.' (Dorst, 2011) 'It is in this space that design thinking emerges as an approach to navigating and making sense of complexity. It may also present a means by which the imagination and creativity that Ministers say is missing in contemporary public service could be engendered.' (Rhodes & Tiernan, 2014) These claims form the basis for a lot of the reasoning in regard to studying the influence of different design approaches on the policymaking process and their impact.

(Howlett, 2014) in his study of the transition of policy design brings up its chequered history in the field of inquiry in policy studies. 'After a promising beginning in the 1970s and 1980s, the field languished in the 1990s and 2000s as work in the policy sciences focused on the impact on policy outcomes of meta-changes in society and the international environment.' (Howlett, 2014) In order to outline the landscape of the field today, he looks at '*the nature of design thinking* and expertise in a policy context, the temporal aspects of policy designs, the *role of experimental designs*, the issue of *design flexibility and resilience',* and so on. In a later section of this thesis, some of these ideas are broken down in detail to outline specific practices from different subsets of design that translate effectively across the policy design process.

(Linder & Peters, 1984) highlight the importance of policy scientists and policy designers understanding the basic vocabulary of design. Back then, however, the understanding of a policy 'designer' was vastly different from the upcoming meaning today. This thesis is trying to build a parallel between the practices of the 'creative design' profession and policy. But the same argument by (Linder & Peters, 1984) in today's context applies to creative design professionals within policy and social scientists alike. They argue that no matter the nature of the problem, the logic of design is fundamentally similar. '**The idea is to fashion an instrument that will work in a desired manner.** In the context of policy problems, design involves both a systematic process for generating basic strategies and a framework for comparing them.' (Linder & Peters, 1984) ''Policy design' is both a verb and a noun, and design studies have always been interested in both the process of designing as well as the design itself.' (Howlett, 2014) In a lot of the recent literature about designing/design

thinking for radical change, there is a strong emphasis on the idea that the process of designing (which includes the participants involved, tools used, facilitators in power, and the questions asked) directly dictates the design itself and is an equally important aspect to strategically define. Hence, the same parallel can be drawn with the policy space where the design of the policymaking process has a direct impact on the final policy and its impact. Here are some arguments that help tie the purpose of the design approach seamlessly to the core of policymaking.

There is a fundamental relevance between the ideology behind the establishment of the professions of both Policy and Design. (Junginger, 2013) touches on this while quoting (Dewey, 1948) who claims that 'the only way in which social is honorific is when it enhances human living.' She further correlates this idea in the context of human-centred design where she cites (Buchanan, 2001) explanation that states ' human-centered design is about the first principles of human existence, such as human rights and human dignity.' These statements bring forward the common logic at the core of the two professions.

(Lewis, McGann, & Blomkamp, 2020) explain design thinking as 'a 'human-centred' approach to innovation that draws from the processes used by industrial and product designers.' They also draw from (Dorst, 2011) who defines it as 'Performing the complex creative feat of the parallel *creation of a thing* (object, service, system) and *it's way of working*.'

'Theorists such as Papanek and Manzini, have sought to evolve design beyond a tool for the development of functional consumer products into a process for the collaborative development of 'radical change' (Bjögvinsson, Ehn, & Hillgren, 2012). Its proponents claim that it *can help solve contemporary policy challenges* in areas as diverse as health, climate change, and employment.' (Lewis, McGann, & Blomkamp, 2020)

Another argument for promoting the logic of design thinking in the realm of policy comes from (Simon, 1969) **The Sciences of the Artificial** where he claims that 'the intellectual activity that produces material artifacts is no different fundamentally from the one that prescribes remedies for a sick patient . . . or a social welfare policy for a state.' (Simon, 1969, pp. 55-56). In reference to his ideas, (Mintrom & Luetjens, 2016) talk about the core of Simon's model being the ability to iterate, test, and incrementally improve designs which, as stated earlier in this section are antidotes to problems with ambiguity. They also highlight Simon's extension of design focus to social planning and how that 'ideally aimed to help decision makers 'evaluate alternatives better' and 'experience the world in more and richer ways.'' (Simon, 1969) (Mintrom & Luetjens, 2016)

When it comes to the decision-makers in policy, most design methods call for a disruption of their traditionally authoritative roles. As outlined by (Mintrom & Luetjens, 2016) 'Design thinking also encourages the transcendence of organizational and procedural silos, established hierarchies, or bureaucratic categories.' This transformation is key for the 'new' policy design that Michel Howlett talks about in his research. (Howlett, 2014) Later in his research, he also points toward these organizational activities of interest in research. 'Constructing an inventory of potential public capabilities and resources that might be

pertinent in any problem-solving situation' (Anderson 1975: 122) is a key activity in policy design studies and one which has received a great deal of attention from design scholars over the past several decades.' (Howlett, 2014)

In the context of this inventory, he also calls attention to (Anderson, 1996)'s argument that says, 'A healthy policy-research community outside government can play a vital role in enriching public understanding and debate of policy issues, and it serves as a natural complement to policy capacity within government' (Anderson, 1996, p. 486)

Michel Howlett's work on the new orientation of policy design refers to studies on current advice systems in different countries and outlines elements of today's 'policy advisory systems' which include ''traditional' advisors in government as well as non-governmental actors in NGOs, think tanks and other similar organizations, and less formal or professional forms of advice.' (Howlett, 2014)

In a large part of research that focuses on studying the scope of design in the policy space, these external advisory systems, especially modern think tanks are an extremely popular discourse. Perhaps because they are often rooted in values of design or adopt a predominantly design-centric lens and are consciously transdisciplinary in nature in order to foster diverse and well-rounded worldviews. A few of the pioneers of this domain of work who gained visibility in research and beyond are the Policy Lab UK established by the UK government, Sitra – the Finnish innovation fund, Demos Helsinki, MaRS discovery district Canada, AUDRC Australia, and many more. So far, think tanks are one of the few tangible manifestations of a systematic practice where design and policy meet, making them a relevant area of study in the scope of this thesis.

With new and complex problems at hand, governments around the world are 'actively seeking new ways to engage in social innovation and are investing in innovation labs and innovation centres where methods and principles of design are now being explored and applied to problems of transforming and innovating the public sector.' (Junginger, 2013) As stated in the previous section, (Junginger, 2013) makes an argument for the role of design in the identification, framing and more interestingly the 'reframing' of a problem and that denying design this central role in the earliest stages of policymaking leads to a decreased usefulness of its concepts and methods. But what novelty do these practices offer to the traditional practice of policymaking and how impactful is their influence?

The Policy Lab UK 'markets its offer as contributing 'design, data and digital' capabilities to the suite of policymaking tools used in government.' (RSA Journal, 2014) (Bailey & Lloyd, 2016) Further, elaborate on their work stating that 'Engagements with civil service teams range from two-hourlong introductory workshops to projects lasting several months. In such engagements 'design' refers to:

- modes of research that explore lived experience, often based on design ethnography

- collective inquiry

- the use of provocations and speculations as a research probe

- generative techniques drawn from co-design and co-production

- collaborative creativity

- modeling techniques such as prototyping

- agile project methodologies.' (Bailey & Lloyd, 2016, p. 3622)

To contextualize these design efforts on a larger scale, (Howlett, 2014) brings to light the fact that this 'New design orientation begins with the observation that a variety of different actors interacting with each other over a relatively long period of time within the confines of a set of political and economic institutions and governing norms, each with different interests and resources, and all operating within a climate of uncertainty caused both by context and time-specific knowledge and information limitations.' (Bressers & Laurence J, The selection of policy instruments: A network-based perspective., 1998) (Bressers & Laurence J, 2005) It is claimed that navigating through these nuances is the very basis of design. But it is important to question the realities and expectations of design's influence. (Bailey & Lloyd, 2016) do so in their study of the perceptions of civil servants of design methods in politics. They bring up crucial questions such as ethical and political questions being different for design (and designers) as compared to policy practitioners. They make an important argument by asking 'If we accept the 'silent, ordinary, fully routinized' apolitical institutions of the civil service are, in fact, where politics and governmentality is daily enacted (Latour 2007, Stone 1988), do we expect more criticality of design than any other discipline? Does design, with its capacities to expedite solutions, to make new things knowable and therefore governable, have a special responsibility? At the very least, we cannot possibly continue to see design as a 'neutral' or value-free set of practices.' (Bailey & Lloyd, 2016)

The significance of the presence of design ideologies in policy is somewhat positively established, but what is necessary is an understanding of the most influential aspects of design in parallel to their areas of influence within the policy context.

3.3.1 Situating Design culture and 'creativity' in the realm of policy

'Design' as a practice has different definitions depending on its subset and is understood very differently even by its practitioners. However, the ideology of design is fundamentally driven by notions of creativity, radicality, and newness. How can such intangible qualities be transferred to other professions interested in doing design-driven work? This section attempts to put some of these ideas into practice.

When it comes to the basic forming principles of the fields of design and policy, there appears to be a contradiction in the literature that studies design and its fundamental theories. A commonly agreed-upon distinguishing factor is the rational versus the creative.

(Lewis, McGann, & Blomkamp, 2020) after referring to relevant literature claim that Design thinking 'pushes policy-making decision-making towards 'a fundamentally creative form of deliberation, which operates with different decision processes to those of rational choice' Another frequent element of emphasis is design-related literature points to the fact that **'**The iterative nature of policymaking from a design thinking perspective stems from viewing the design process as a 'bottom up' approach to public problem solving that is playful, creative and, at times, even illogical.' (Lewis, McGann, & Blomkamp, 2020)

What is common in most of these claims is the idea of challenging our submission to 'rational choice' and establishing an argument for the legitimacy of 'intuitive decision-making.' (Lewis, McGann, & Blomkamp, 2020) also draw from (Bailey & Lloyd, 2016) and (Kimbell, Design in the time of policy problems, 2016) who emphasize design thinking's adoption of situated and abductive forms of reasoning that depend on the designer's immersion in 'thickly experiential policy contexts'. Here, abductive reasoning would entail the designer's selection of a hypothesis that would best explain the discovered evidence in these policy contexts.

In a comparison between the 'old' and 'new' policy design, (Peters, 2018) argue that even if the processes followed by the two are very different, their purpose (of improving the economy and society) is not. It is established that this 'new' school of thought aims to expand the range of ideas and possibilities and encourage innovation. (Peters, 2018) comparison 'highlights an emphasis on ambiguity and openness in the new design, which he views as positive in moving from a technocratic form of design to one that is 'more open, and less deterministic.' (Lewis, McGann, & Blomkamp, 2020, p. 116)

On comparing 'contrasts and complementarities' between design thinking and rational approaches to policy, (Lewis, McGann, & Blomkamp, 2020) argue that there seem to be tensions when 'design meets power.' They outline these differences in *Figure 4.* 'The logics and foundations that underpin these approaches, and the basis on which they can speak truth to power (meaning political and policy systems), are different in each of these (although not always in conflict). For design, creativity is valued over technical expertise and democratic principles, and imagination over evidence and discussion' (Lewis, McGann, & Blomkamp, 2020, p. 117)

	Rational	***Participatory***	***Design thinking***
Logic	Soundness (deduction, induction, objectivity, analysis)	Inclusion (consultation, argumentation, collaboration)	Innovation (humanity, intuition, Abduction-2)
Foundation	Evidence	Discussion	Imagination
Speak truth to power on the basis of:	Technical expertise	Democratic principles	Creative ideas

Figure 4: Three approaches to policy

After researching the practical significance of design thinking in policy contexts at various Public Sector Innovation labs, (Lewis, McGann, & Blomkamp, 2020) proclaim that “design thinking incorporates imagination, creativity, and playfulness within the epistemological framework of policymaking in a way that rational-process and even participatory approaches to policymaking have historically struggled to do. In so doing, it recasts policymaking as a more reflexive, uncertain, and even ambiguous process compared with the instrumental rationality of policymaking as depicted in policy handbooks or the deliberative tribunal of participatory models.” (Lewis, McGann, & Blomkamp, 2020, p. 124)

The notion that design thinking calls for the inception of creativity in the otherwise rational/deductive policy process is a popularly established discourse. But this does not necessarily mean that creativity is promoted as an irrational approach. On the contrary, it helps us counter the limitations imposed by overly rigid and deterministic models and makes space for novel ideas to appear.

While adopting a creative approach to solve a certain problem, the policy designer’s ability to experiment with new possibilities and emotional resilience are crucial. (March, 1972) ‘s observations **‘**pointed to the importance of forms of creativity that come from intuitive knowledge and forms of wisdom that cannot be explained by the standard deductive models.’ And in order to foster this kind of creativity and “escape the logic of our reason” (March, 1972) suggests ‘we explore the role of playfulness as “the deliberate, temporary relaxation of rules in order to explore the possibilities of alternative rules.”’ (Considine, 2012, p. 705) She later goes on to bring back (March, 1972)‘s argument for the role of playfulness as ‘the antidote of excessive rationality.’

Intentional and purposeful rebellion and intuition are projected as virtues of Design. (Lawson & Dorst, 2009) contend that ‘the designer’s mandate explicitly promotes the potential for outcomes that are surprising and that employ imaginative skills with a “basically irrational nature”.’ ‘At the heart of this claim is the idea that some expertise involves an ability to recognize solutions and intuit outcomes to problems.’ (Considine, 2012) As another testimony of this designerly synthesis and an intuitive worldview, (Collins, 2001) talks about his Strength being his ability to make sense of unorganized information, draw meaningful patterns and go from ‘chaos to concept’.

While the practice of synthesizing complex information is being established as a designer’s professional strength, the notion of creativity doesn’t need to be selectively limited. Building upon (Alexander, 1982) inquiry of truly understanding creativity and reproducing the creative process in a way that is useful to other professions (Considine, 2012) questions the possibility of retaining positive aspects of other policy-making models without ‘either destroying creativity or allowing its free reign to generate unviable risks’ (Considine, 2012, p. 709)

One of the most prominent reasons for design thinking to have become increasingly relevant for so many different professions is the increasing uncertainty and radical changes in society. In order for decision-makers to be able to navigate through these complexities, ‘emotional resilience’ and ‘flexible thinking’ have been deemed imperative. In order to

develop this flexibility “Simulating several plausible scenarios makes it apparent that credible alternative futures exist, thus challenging prior beliefs in a single future” (Healey & Hodgkinson, 2008, pp. 576-7)

To further the case of the need for creativity in decision-making, there is an argument that rationality alone is not a sufficient explanation of how decision-makers think and act. (Considine, 2012) Perhaps the failure of some rational models in dealing with complex societal problems can second this argument. Principles of creativity such as intuition, flexibility, and playfulness have been viewed as an ‘alternative to rationality’ (March, 1972, pp. 426-7) These alternatives have proved to be effective in countering failures caused by the seemingly well-established models.

Justifying the strangeness of these claims, (Gould, 1996) argues “What looks like rank inefficiency turns out to be improved capability ‘In our world of radically and unpredictably changing environments, an evolutionary potential for creative responses requires that organisms posses an opposite set of characteristics usually devalued in our culture: *sloppiness, broad potential, quirkiness, unpredictability, and, above all, massive redundancy*. The key is flexibility, not admirable precision.” (Gould, 1996, p. 44)

To put these principles of thought into action (Considine, 2012) has proposed eight ‘characteristic cognitive skills’ that embody ‘openness and playfulness in relation to decision scenarios and alternatives.’

“Proposition 1: **Goal emergence**.

Design theory expects goals to emerge in the process of decision making, including toward its conclusion, and this is thought to release some of the strictures known to promote conservatism.

Proposition 2: **Pattern recognition**.

Designers will be defined as experts with a high capacity to recognize patterns in data and thus to read the environment using a number of complex heuristics.

Proposition 3: **Anticipation**.

Designers search forward using skills of anticipation that draw upon memorized experiences and strategies. Being creative thus suggests a capacity to visualize unexpected future states.

Proposition 4**: Disruption**.

Design theory promotes the idea that a creative outcome will require some break or disruption from accepted practice in regard to prototypes and in some actual outcomes.

Proposition 5: **Emotional engagement**.

Design thinking will address emotional responses by designers and stakeholders and make these biographical capacities a driver for developing solutions.

Proposition 6: **Fabulation**.

Design theory is comfortable with the costs of developing playful scenarios and prototypes including some that will be considered highly impractical, but which will promote openness and surprises.

Proposition 7: **Nonconsistency**.

The design process will explicitly promote a degree of playfulness and a loosening of the requirement to consistently, generating increased variety in the stock of embedded alternatives available.

Proposition 8: **Risk protection**.

The decision-making environment for designers needed to promote creativity by experts will involve techniques and processes to foster open-ended thinking, shield designers from foreclosure, and limit the impact of positivity bias and other heuristic traps." (Considine, 2012, p. 717)

(Considine, 2012) positions these propositions as a means for policymakers to act differently as opposed to their general conditioning and develop greater ideas and potential for change.

4. Studying the significance of different subsets of design in the context of Policy

4.1 User-centered design-driven policymaking

So far, we've explored design thinking in the light of radicality and resilience. But there is one more argument that is central to its claims, and that is having greater empathy for the users of services. (Mintrom & Luetjens, 2016) And this idea leads us toward the adoption of 'user-centered' design and its processes in creating policies and implementing services.

As discussed in ***section 2*** a notable limitation of the traditional policymaking process is its starting point which builds upon previously outlined problems rather than redefining those based on current user needs and behaviors. (Mulgan, 2014, p. 4) highlights that design thinking is 'a synthesis of methods drawn from many fields that together helpfully mitigate the traditional limitations of public policymaking'.

This chapter examines a few of the many design schools, and various methods from these schools are almost always used concurrently depending on the stage and goals of a project. User-centered design processes are especially beneficial during the early stages of discovery, problem-solving, and redefining and re-orienting designed solutions with the user at the center of every subsequent step. While walking through Policy-Lab's case studies, (Kimbell, 2015) consistently talks about the use of ethnography, truly understanding users' experiences, turning them into insights, further developing them into opportunities, and getting the users back to create ideas based on these together.

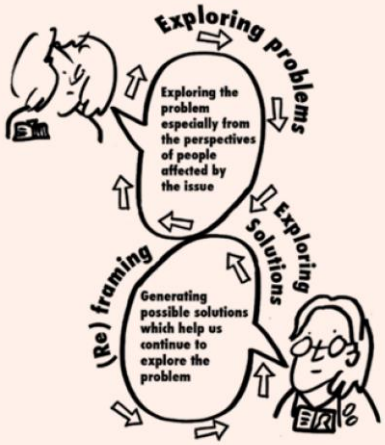


Figure 5: Iterative problem-solution exploration by (Kimbell, 2015)

‘Policy makers tend to think of people as service users, beneficiaries, or stakeholders within a system. In contrast, Policy Lab’s approach shifts the focus to people and how they experience things, which reorders the policy area.’ (Kimbell, 2015, p. 44) This claim highlights the fact that a slight change in the lens used to study the user and focusing on lived experiences rather than general presumptions can bring about new policy directions.

When it comes to activities that help understand the experiences of users and make them the central element in practice, there are multiple design aids out there that fit the brief. (Mintrom & Luetjens, 2016) highlight five such strategies which are drawn from well-researched social science methodologies.

(1) Environmental scanning - As the name suggests, this activity is about scanning current user behaviors and their outcomes. (Etzioni 1986) promotes an assessment of the situation/problem at hand and encourages the search for new inputs, influences, and technologies from other relevant fields. Environmental scanning is an evidence-based method of synthesizing information and unveiling new opportunities and potential blind spots. ‘Environmental scanning is intended to fill knowledge gaps and develop a holistic understanding of systems.’

(2) Participant observation – This activity encourages following the user through each step of a process and asking for explanations of their actions. The implicit discoveries here come from noticing what the user is not verbalizing and the difference between their answers and actions. By designing a policy around ultimate service users, policymakers can avoid irrelevant endeavors. *‘*Observation is particularly useful for understanding the effect that a policy has on marginalized people.’

(3) Open-to-learning conversations – This idea encourages divergence. The point of these conversations is to challenge preconceived notions and existing structures and create new possibilities. Their attempt is also to help with redefining a problem based on user insights. ‘One way to facilitate open-to-learning conversations is to ask: ‘How might we . . .?’ ‘How’ assumes that solutions exist and provides the creative confidence needed to identify and solve for unmet needs. ‘Might’ says that we can put ideas out that may or may not work – either way, there is a learning opportunity. ‘We’ signals collaboration and building on each other’s ideas to find creative solutions together (Martin 2009).’ (Mintrom & Luetjens, 2016, pp. 5-7)

(4) Mapping – Mapping is visually outlining a user’s process from beginning to end considering all touchpoints. This is often missing from the traditional policymaking process which looks at a problem in isolation. Even a quick visual map of the process helps identify areas where ‘services or processes can be eliminated, streamlined, enhanced, or changed.’ (Mintrom & Luetjens, 2016, p. 7) (Kimbell, 2015) also establishes Policy Lab’s use of user journey mapping in each case study to better identify gaps and opportunities and service blueprinting to map the journeys of each stakeholder in relation to one another.

(5) Sensemaking – This is a free-form activity driven by plausibility that is performed at the insight analysis stage. Sensemaking entails identifying implicit and explicit connections between data items and placing them together forming organized affinities. ‘Affinity

mapping' is a commonly used way to analyze data in design processes. The entire set of data is studied together. 'Implicit and hidden meanings can be revealed by relating otherwise discrete chunks of data to one another and positioning these chunks in the context of human behavior. Sensemaking requires perception, judgment, and flexibility.' (Mintrom & Luetjens, 2016, p. 8)

(Kimbell, 2015) while talking about Policy Lab's expertise and case studies points to the fact that although there are a lot of design methods available, what actually influences the policymaking process is a structured introduction of the creative process and facilitating a contextual and effective adaption of different design ideologies.

4.2 Participatory design approaches to policy

Because of the nature of policy practice, it never involves a single user group. As a result, in order to develop truly user-centered policies, it is critical to identify all of the different stakeholders impacted by a policy and engage them in the development process. (Nogueira & Schmidt, 2022) argue that behavioural design is concerned with understanding and influencing the behavior of individual users, the policy process may benefit from using systems design because it influences changes on an institutional level and works with the overall system dynamics.

Policymaking structures that are primarily evidence-based and drawn from social methodologies are typically top-down and linear, led by actors who are disconnected from the actual impact of their work. While this structure worked well in stable conditions, it falls short in a rapidly changing, interconnected environment. "Without considering cultural practices that reflect people's beliefs and habits, it is unlikely that any emerging policy will bring about desired changes." (Nogueira & Schmidt, 2022, p. 35)

What we are witnessing today are Social-Ecological-Technical (SET) shifts, which necessitate an approach that not only examines the needs and goals of a policy but also pays equal attention to how the policy is designed and for whom it is designed. "The incoming hypothesis of our work was that policy solutions in these complex spaces demand interventions at the intersection of social, ecological, and technical systems, and strategic integration activities across organizational levels." (Nogueira & Schmidt, 2022, p. 36)

Along with identifying agents for participation in these interventions, it is critical to consider possible individual, organizational, and system-level factors that influence this participation. It is critical to recruit these participants with a diverse set of thoughts and experiences in order for them to garner multifaceted insights. This is done so that individuals, sectors, and organizations can influence their own contexts and share their voices and values.

The idea here is to help different entities expand their knowledge about the context they are embedded in, and understand their expertise and influence in relation to other actors. "The strategic use of cross-pollination activities created bridges across dispersed networks,

expanding participants' perceptions about the nature of problems and the range of available knowledge, political access, and technical expertise represented in the event." (Nogueira & Schmidt, 2022, p. 41)

Finally, (Nogueira & Schmidt, 2022) emphasize the importance of encouraging participation at all stages of the policy process, from policy framing, where relevant actors' behaviors are studied and participation goals are outlined, to policy-making, where the activity is viewed as a "conversation and negotiation" between relevant actors rather than a top-down mandate. The policy's content is generated here through discussion among actors, a collective definition of the policy's success, and ongoing framing. Continuous learning, testing interventions, and prototyping policy action with relevant participants are used to gather feedback and leverage participation in policy implementation.

"The process of changing policy design practices requires examining how people engaged in this process perceive reality differently, and how this impacts their agency to act accordingly." (Nogueira & Schmidt, 2022) Participation in the policy process is fundamentally about creating new knowledge based on the participants' motivations and worldviews, as well as outlining a more relevant structure for policy implementation.

4.3 Anticipation and foresight

Policy is invariably concerned with the future and how to get there. (Peters, 2018)

As stated in previous sections, today's problems are 'wicked' and constantly evolving. As a result, there is a need to move beyond deductive, 'cause-and-effect relationships' among policy variables and design for the unexpected. This is what fosters a policy's 'resilience,' allowing it to achieve its objectives even under adverse conditions. "There is also the notion of 'dynamic' policy effectiveness, i.e. ensuring that the policy addresses not only the problem in a given context but how it adapts to changing conditions and circumstances over time." (Bali, Capano, & Ramesh, 2019)

The primary virtue of design and foresight practices is dealing with the unexpected. The concept of problem-solving, combined with an anticipation of how designed solutions can be realized, makes these practices useful in developing robust policies. (Bali, Capano, & Ramesh, 2019)

"Designers have to essentially develop pathways to 'that-which-does-not-exist' and make it appear in concrete form as a new purposeful addition to the real world." (Nelson & Stolterman, 2003) (Bali, Capano, & Ramesh, 2019, p. 4)

(Burke, 2002) conducted early research on anticipatory action in leadership. This model for 'learning in the unknown' was presented, and it appears to be extremely pertinent to the current policymaking context also. This model was developed on the premise that dealing with uncertainty and chaos is a strength of 'emotional intelligence,' rather than linear and deterministic processes.

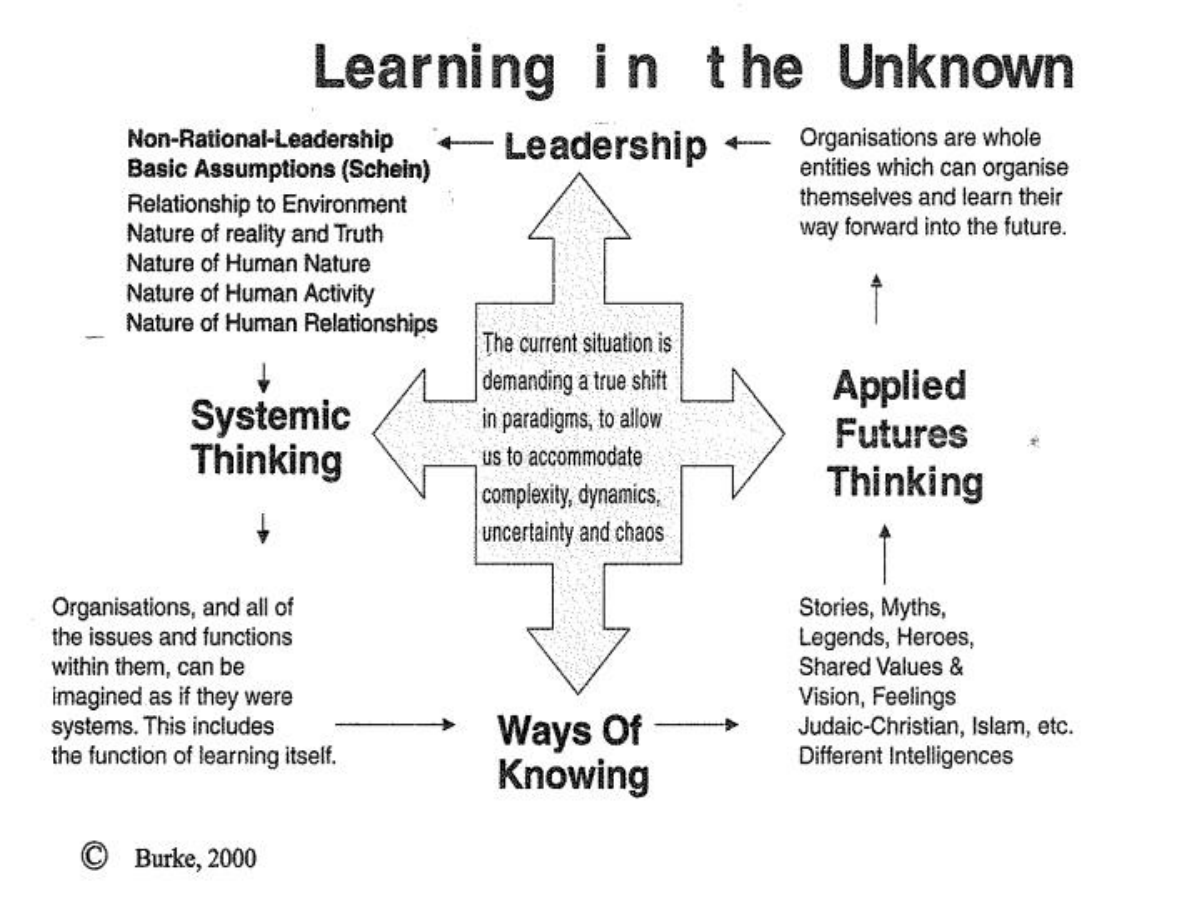


Figure 6: Learning in the unknown by (Bruke, 2000)

Another disadvantage of these deterministic processes is the prevalence of 'short-termism' or 'presentism' in policy development. As a result, long-term catastrophic risks are consistently overlooked. (Global Priorities Project; Future of Humanity Institute; Oxford Martin School; Centre for the Study of Existential Risk, 2014) (Jones, O'Brien, & Ryan, 2018) addressed this phenomenon in their study on the responsible inclusion of future generations in UK's policymaking frameworks. This requirement emerged from the recognition that many of the beneficiaries of today's policy decisions will be future generations.

Methods from the field of futures design provide an antidote to this 'short-termism'. Many of these methods are experimental in nature. Policy labs, for example, may even use "experimentalism as an ideology for how we should shape the future." (Leadbeater, 2014) It is particularly useful for discovering emergent or potential worlds and using these discoveries to inform the development of policy frameworks 'on, with, and for these worlds'. (Pólvora & Nascimento, 2021)

(Pólvora & Nascimento, 2021) highlight the influence of learnings from the fields of 'speculative design,' 'experiential futures,' and especially 'design fiction' while reflecting on

the practices of the EU Policy Lab. Their goal in co-creating possible futures is to eventually use them as tools to evaluate the present and identify preferred and undesirable futures.

Finally, (Dorsser, Tanejaa, Walker, & Marchau, 2020) outline a thorough framework that aids anticipation and helps navigate uncertainty in policymaking. It helps situate different futures design practices in the context of policymaking. They use policy analysis (PA) to bridge the gap between policymaking (PM) and the futures field (FF). The goal of this framework is to help policy analysts use anticipation to better serve policymakers. The framework is based on the previously stated concept of uncertain futures, which is further broken down to aid in drawing parallels with different policy levels.

Table 3
Integrated framework for anticipating future developments and dealing with uncertainty in policymaking.

Level of uncertainty	Shared typology (PA and PM) for dealing with uncertainty in decisionmaking/policymaking	Shared typology (PA and FF) for improving insight into future developments and dealing with future uncertainty
Level 1: Clear enough future.	Optimal policy: Forecast the expected future and choose an 'optimal' policy for that future.	Forecasting: Single reliable forecast based on trend extrapolation and expert judgement, in combination with a sensitivity analysis.
Level 2: Alternative futures (with probabilities).	Risk-based policy: Use probabilities to optimize policy in accordance with the risk attitude of the policymaker.	Probabilistic forecast: Probabilistic forecasts, for which the likelihood of all relevant parameters can be expressed in terms of probabilities.
Level 3: A limited, bounded set of plausible futures.	Static robust policy: Identify plausible futures and find a policy that works acceptably across most of them.	Foresight: Limited range of scenarios that is intended to explore the envelope of plausible future developments, based on an ever increasing understanding of the system and its key uncertainties.
Level 4: An unlimited, unbounded set of possible futures.	Adaptive policy: Adapt the policy over time as conditions change and learning takes place.	Futures: Use large numbers of possible scenarios that are intended to explore what might happen, given our lack of understanding of the future.

Figure 7: Integrated framework for anticipating future developments and dealing with uncertainty in policymaking

5. RESEARCH RATIONALE

5.1 Gaps in existing research

For a little over a decade now, the argument for the impact of design ideologies in policymaking has been increasingly popular both in the realm of research and practice. There is an attempt at equal representation of the fields of design, political science, sociology, and even psychology throughout the literature. However, in a lot of the literature studied in reference to this thesis, the adaption of design in policymaking is largely portrayed from a designer's lens and uses a technical and theoretical design narrative that might not always be relatable to policymakers themselves. One of the few great examples of experience-based literature is the Policy Lab UK's report on applying design approaches to policymaking based on the case studies outlined by (Kimbell, 2015)

Most organizations and governments are now on board with recognizing the potential of design in their work. Prof. Catherine Durose attested to this by saying 'idea of "design for public policy" is now recognized across design, policymaking, and her own field of political science.' (Mazé, 2022) What is needed now is for designers and these institutions to both be on the same page and have the same understanding of the goals of these design practices and the expected impact.

As stated in existing literature, our contemporary problems are rooted in 'radical uncertainty. There is an extremely urgent need for action to counter issues such as pandemics, climate change, war, and more. Prof. Catherine Durose rightly argues that 'In this context, it's difficult to anticipate events, to predict how they will unfold, and to handle the plurality of legitimate views on how to proceed. The turn to design can be a way to bring "the political" to policymaking, to disrupt some of the ontological assumptions and entrenched practices that limit policy today.' (Mazé, 2022)

What is missing in current literature is the attempt to walk policymakers through the need to include the 'political' in their work from a design perspective and make explicit how different political and societal concepts influence each other and need to be worked on together to deliver strong policies. When looking at design literature on its own, there are established frameworks of research that are relevant to aid this effort. The study of complex systems and network theories and future thinking theories to name a few. But as these are niche concepts that are not popularly understood by policymakers, there is a need to explain their place in policymaking in a practical manner and explicitly outline their potential in accelerating the speed of policy decisions (through participation, rapid prototyping, connected systems innovation, etc) and by the same logic, minimizing resource use in the policy lifecycle. And it is imperative to do so in a simpler language, making it more inclusive for policymakers and extending their understanding of design beyond toolkits.

Lastly, in the recent past, the subsets of design have evolved very rapidly and are continuing to do so, and many design practitioners have been a part of multiple stages of this evolution. Such experience needs to be reflected as a whole in an evaluative and

comparative manner in order to help policymakers understand the core logic of what is effective instead of constantly overwhelming them with the introduction of different kinds of design.

5.2 Relevance of the chosen research area

The novelty of this thesis lies in its attempt at building a comprehensive picture of different design theories by experienced practitioners and grounds the discovered results to the most important logic that has proved to create positive change.

In the context of design research, this work highlights the limitations and processes that need to be worked around in a real policy process followed by the EIT. This process could also be looked at as a case example by other researchers.

Lastly, it introduces the EIT to a different way of thinking and working with policy in an attempt of making their work more impactful and efficient (in a way that helps them optimize time and resources), matures their understanding of the field, and helps them see possibilities of change in their very own context.

6. METHODOLOGY

6.1 The Qualitative approach

This thesis uses a qualitative approach for analyzing collected data. In line with this approach, it uses constructivist grounded theory as a method to systematically arrive at the results. Qualitative research often focuses on real-world problems and is effective while dealing with ones that are largely complex in nature. It also allows us to draw from real-life experiences and interpretations of research subjects while constructing results. (Muratovski, 2021)

Qualitative research is a particularly good fit for policy-elated studies as policy decisions are not selectively based on numbers and data. (Gaber, 2020) Outlines this in his book 'qualitative analysis for planning and policy'. He highlights the importance of qualitative methods in helping planners to 'read between the lines' of quantitative data and deal with complex problems better.

6.1.1 Method - Constructivist Grounded Theory

Grounded theory is a popular qualitative analysis method that aims to construct a theory as opposed to subscribing to existing frameworks of knowledge. The central premise of method is to develop a theory from a systematic analysis of empirical data. Grounded theory provides guidelines for gathering, synthesizing, analyzing, and conceptualizing data. (Charmaz, Grounded theory as an emergent method., 2008)

Grounded theory can be studied from objectivist, positivist, and constructivist lenses. Objectivist and positivist approaches argue for the researcher to be 'removed' from the research process to discover an 'objective' theory with a strict restriction on the influence of existing literature and the researcher's presumptions. Whereas the constructivist approach argues against this by claiming that the researcher cannot and shouldn't be 'neutral' in the research process. (Lincoln, Lynham, & Guba., 2011)

A constructivist approach denies the passive emergence of a theory and highlights the significance of the researcher's knowledge construction based on their 'shared experiences and relationships with participants and other sources of data.' (Charmaz, 2014, p. 239) It encourages critical engagement with the researcher's existing knowledge and its influence on research areas, data collection, analysis, and final rendering of the result. (Mruck & Breuer, 2003) Finally, it acknowledges the fact that 'it is not the research methodology that aims to discover a theory despite the researcher, but it is the researcher who aims to construct a theory through the methodology.' (Charmaz, 2000)

In this thesis, the knowledge created by the means of presented results is influenced by my prior understanding of various design practices, literature related to design theory, policy

practice, and the intersection of the two and the knowledge and experience of policy design practitioners who are treated as 'experts' in this research and whose insights are crucial drivers of the results.

6.2 Collecting the data

As a starting point for this research, a literature review was conducted to understand the existing landscape of design in the realm of policy, its positive and negative effects on the policy-making process, theoretical discoveries, and practical gaps.

Next, the data collection was done in the form of 9 semi-structured interviews. The semi-structured approach was chosen to adapt to vastly different positions and expertise of the interviewees and to create a space for natural themes to emerge. This approach also helped keep the focus solely on the interviewees' lived experiences which were extremely important drivers of the analysis.

The interviews were conducted in two sets. The first one was dedicated to internal officials from the European Institute of Innovation and Technology's headquarters. The EIT was represented by 4 officials from different parts of the organization with different roles and different grounds for participation in the policy-making process. The goal here was to understand the EIT's current processes and structures, outline organizational limitations and identify spaces for change and intervention.

The second set was focused on design experts with extensive practical experience in working with different domains of design in the context of policy. These experts represented learnings from different government settings, policy labs, think tanks, and consultancies. The goal of this set was to learn about successful design approaches and failures from practitioners who have been catalysts of the design-driven policy movement since its very inception. These learnings, along with key elements from the literature review were then used to outline the adoption of design practices by the EIT.

6.3 Recruiting the interviewees

SET 1

The recruitment of the first set of interviewees was led by Iuliana Vizitu who an internal control coordinator at the EIT headquarters and an advisor for this thesis. She acted as the lead for reviving the gender mainstreaming policy at the EIT which was used as a case to understand internal processes in this research. She was also one of the first interviewees.

Second, was Dr. Petra Debusscher who is an expert on gender mainstreaming and diversity in EU policies. She acted as the expert advisor for EIT's policy and was a crucial part of the policy-drafting process and team.

The third interviewee was Juraj Majcher, a program officer at EIT Digital. He represented the Innovation Communities unit and was responsible to overlook the implementation and adoption of policies by all the Knowledge and Innovation Communities. (KICs) He also handled grant distribution and supervision of all grant-related activities. He brought valuable insights related to the implementation of EIT policies.

The last one in this set was Luke Incorvaja, an innovation officer that heads the regional innovation scheme and has a history of acting as a liaison between the EIT and EU member states. His experiences represented the strategic undertakings and agendas of the organization in relation to the European Commission.

SET 2

This second set of interviewees was chosen to reflect a variety of practical design experiences and their implications in the context of the public sector and other institutions dealing with aspects of policy.

The first interviewee in this set was Esko Reinikainen, a systems change consultant and the co-founder of The Satori Lab, an organization working towards bettering the delivery of public services and changing the culture of organizations that create them. The Satori Lab is based in Cardiff and works within the context of the UK. Esko has been working with the public sector ever since design work started to be associated with it.

Second was Nina Nissilä, who is in charge of shared services at Kela. (Finland's social insurance institution) She has been a part of the D9 team, a one-of-a-kind team that was set up by the Finnish state treasury to aid the rapid digitalization of public services. D9 primarily worked with design principles and had an experimentalist approach in order to achieve human-centred digitalization.

The third interviewee was Marco Steinberg, currently the founder of Snowcone and haystac, he works closely with Finland's ex-prime minister. Marco has been the Strategic Design Director at Sitra, the Finnish Innovation Fund and has decades of experience working as a strategist with various divisions of the public sector including the European Commission, and tackling complex global issues.

Fourth was Johannes Anttila, a senior expert at Demos Helsinki who specializes in public governance innovation. He works with governance models, transformation research, foresight, and policy work. Demos Helsinki is a think tank that deals with transformative change and works towards creating fair and sustainable societies with the public and private sectors, and NGOs. Demos works with various governments around the world following their very own impact model.

The last participant was Dr. Alex Ryan, senior vice president at MaRS Discovery District, which is the world's largest urban innovation hub based in Toronto. MaRS deals with innovation projects from various industries with the aim of accelerating economic growth and making an impact. (In essence, similar to the goals of the EIT)

Alex is a leader in designing for systems change and has worked with numerous institutions dealing with policy including the US Army and the Government of Alberta.

All interviews were conducted through Microsoft Teams and Zoom between February to October 2022.

6.4 Designing the interviews

The interview guides for the first set were designed to generate an understanding of EIT's approach to creating different kinds of policies, the general process they follow, the reasoning behind that process, the kinds of expertise involved in drafting the policy, the metrics and formats of the policy, implementation and support frameworks, power structures within the organization and pain-points, limitations (strategic and operational) and opportunities for change.

The guides for the second set were designed to highlight the lived experiences of experts in regard to deploying design ideologies, processes, frameworks, or methods and their effect on policy settings. The questions embodied nuances from different fields of design and their respective ideas and methods, acquired best practices, pitfalls to avoid, a way of working with design that reflects on the desired policy outcomes, the intersection between the design process and the policy process, and space for open sharing.

6.5 Analysis

A thematic analysis approach was used to make sense of the data gathered from the interviews, with coding as the primary technique. This analysis focused on identifying the value experienced and created by experts while deploying various design approaches and presenting them as a coherent narrative for convenient adoption by the EIT.

The coding method was non-linear. It started with 23 open codes, which were then narrowed down to 11, which were then used to generate four broad clusters that aided in the development of a design-driven policy approach for the EIT. This non-linear qualitative research process outlined by (Williams & Moser, 2019) can help explain the structure of the analysis.

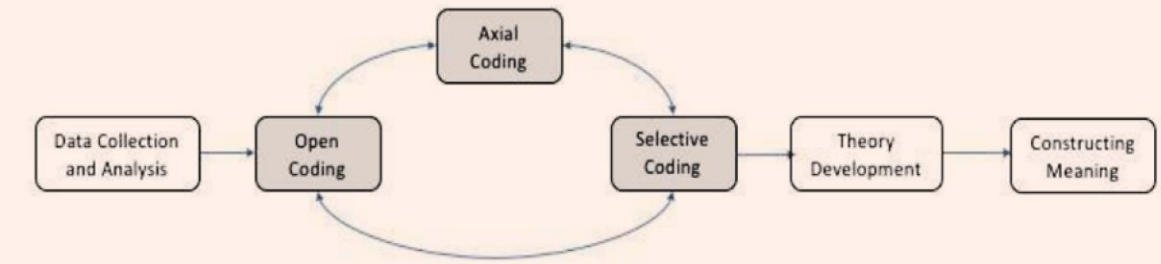


Figure 8: Non-linear process: Qualitative research

During the transition to the axial codes, a conscious effort was made to eliminate 'design jargon' and create a guiding structure that supports a clearer understanding of the most important suppositions.

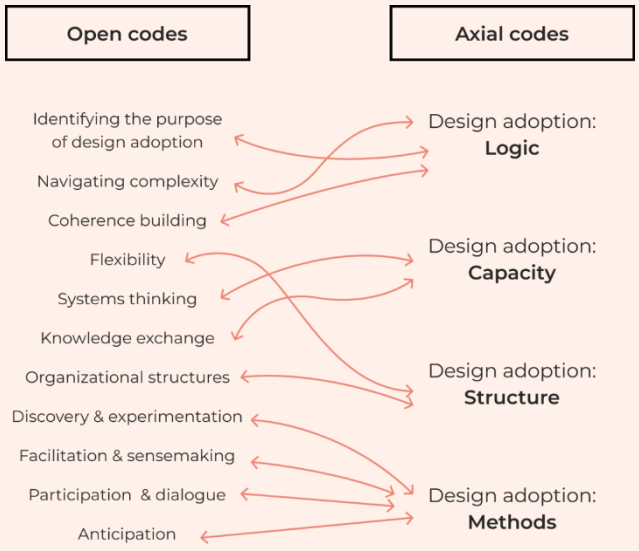


Figure 9: Thematic analysis: coding the data

These axial codes were further simplified to achieve a narrative format and the why, what, where, and how of the proposed design-driven policy approach are presented in the results.

7. Insights from the EIT's current policy process

As outlined in the introduction, policies at the EIT are aimed at helping its Knowledge and Innovation Communities to work toward fulfilling the European Commission's strategic goals. Hence, these policies are guidance-based. "Our policies have more of a guiding nature. They take on board what the Commission has in their policies and then localize them on an EIT level." (Vizitiu, 2022)

Three kinds of policies at the EIT headquarters

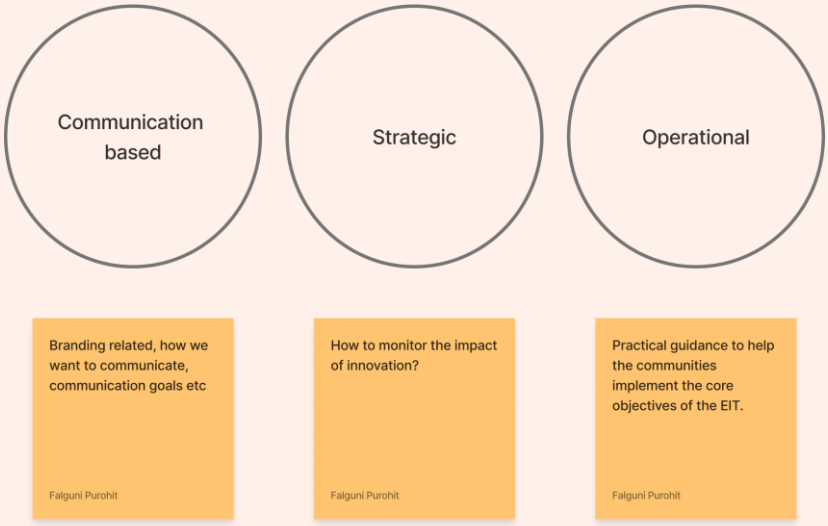


Figure 10: Types of policies at the EIT headquarters

The types of policies created by the EIT can be segregated into roughly three segments. Communication-based policies are usually internal to the EIT and look at branding, value/goal communication, etc. Strategic policies are usually about the EIT's overall strategy which is influenced by the one generated by the European commission. Such policies may tackle bigger questions such as ways to monitor the impact of innovation at the EIT. Lastly, there are operational policies that are also internal to the EIT and more administrative in nature. They deal with issues such as guiding the KICs to implement core objectives of the EIT and more.

Policies at the EIT are not strictly segregated in this manner and many policies deal with more than one of these segments. This is simply an attempt at contextualizing the different kinds of policies within the scope of the EIT.

Overview of a general policy process at the EIT

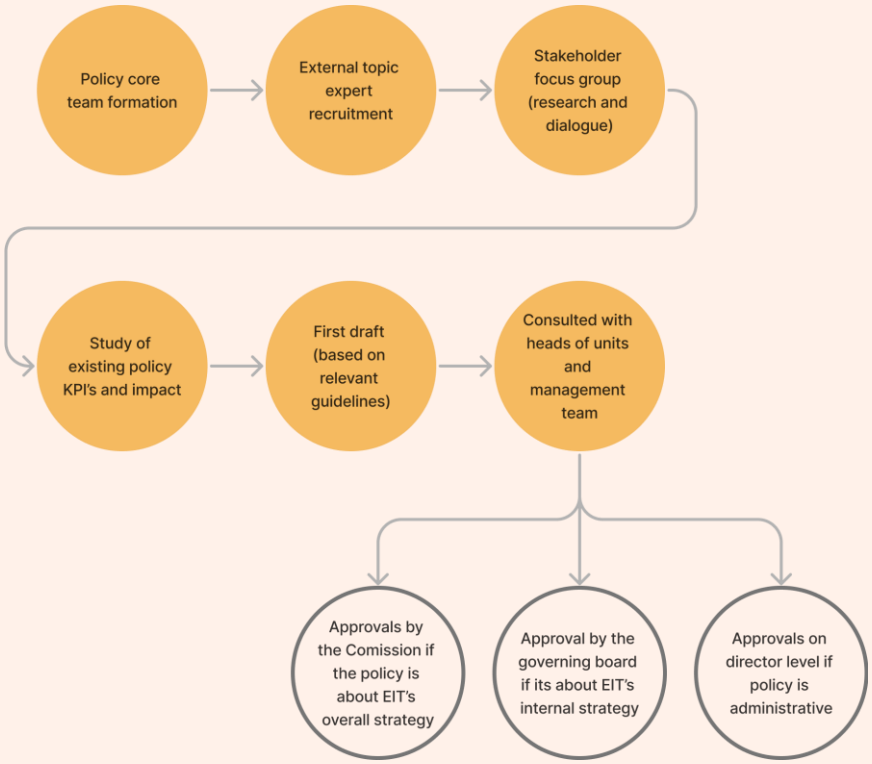


Figure 11: EIT's policy process overview

After studying the process behind EIT's renewed gender mainstreaming policy and interviewing representatives from different EIT units, a general specimen for the policymaking process at the EIT is outlined. This is not an ultimate formal representation as different policy topics have different nuances and flexibilities. It does however provide an overview of the approach often taken.

To begin with, a core policy team is identified who is responsible to lead the creation of the policy. Depending on the topic, this team is rooted in one of the internal EIT units. As a second step, since the core team consists of EIT officers who are not experts in the policy field in question, external experts are recruited for the project from EITs extensive database of experts from various fields. The core team and the expert(s) are then responsible to undertake the best possible steps to realize the intended policy. Relevant stakeholders are contacted to understand the perspectives of real policy users, this is done in the form of an open dialogue. Alongside this research, existing KPIs of the policy and past performance are

studied to understand failures and successes. Soon after a policy draft is created building upon a relevant policy template. There are further approval processes and iterations with EITs management, and the policy is finally approved by either the European Commission, EIT governing board, or EITs director depending on the nature of the policy.

7.1 Observations and pain points from the current process

Identifying the need for a policy and planning at the EIT

The need for a new policy or a policy renewal at the EIT is determined by new strategic developments at the European Commission, political agendas, or problems outlined while looking at the performance data of various programs.

When working with a policy problem, the first step in most cases is to refer to EIT's strategic guidance (which is a master document outlining various goals and guidelines that is renewed every seven years) and its legislative framework as it sets a legal landscape to operate in as well as delineates the political will. It provides solid guidance on what needs to be done and how.

However, these guidelines might not always be straightforward mandates. "There are certain things within the legal framework, which are spelled out slightly between the lines, and this is something we have to be sure we deliver on quite carefully. So we start off with that." – Luke Incorvaja, Innovation Officer at the EIT (Incorvaja, 2022)

Next, when it comes to planning the policy, there is a study of the previous performance of the policy so far (or problem area if it's a new policy). This is often an informal activity. "Basically, from all the previous year's lessons learned and from the previous assessment, when we see that something could have been done better or could be improved eventually at the end. We just have a small internal meeting where we just write (this) down." Juraj Majcher, Program Officer at EIT Digital (Majcher, 2022)

Simultaneously, there is an attempt to gather on-ground experiences from the KICs as the EIT is aware that they have more insights regarding the practical implementation of the policy. This study takes place in conversational forms at various events, feedback discussions, and through channels such as the EIT initial contact points network and EIT member states representative group. However, this doesn't entail a complete understanding of the user in this case. "I think we're very much in touch with our stakeholders, of course, there is always a degree of distance. And I think that is also important because it is through this small degree of distance that one can take neutral decisions which benefit everyone and have the full picture in mind." (Incorvaja, 2022)

Policies by the EIT must consider perspectives from multiple stakeholders with different hierarchies of power. Hence prioritizing crucial needs in a manner that doesn't distort the main goal is key. "So finding a compromise is, first and foremost, what the European Union is all about. It is about finding compromises. But it's also what we do at this minute level,

right? Finding a compromise between the demands of the core legislators, the concerns of the EIT KICs, and the desires of the EIT management. So bringing all that together in a single document, and trying to make it as clear as possible, as crisp as possible" (Incorvaja, 2022) Alongside these demands, there is another delicate balance to strike due to there being pressure on the EIT to be financially sustainable. As for the perfect formula to achieve this balance "That formula doesn't exist. Sometimes it's down to a bit of a gut feeling. It is the EIT management which ultimately takes the decision in terms of what the right balance should be, and that is exactly where co-design with them really matters and is crucial." (Incorvaja, 2022)

Lastly, when it comes to the conceptual change a policy is trying to establish, the EIT believes in a smooth, step-by-step transition instead of a radical one. For example, a transition from gender equality to mainstreaming even when the societal conversation is already past that and focused on diversity now. "It's a matter of culture. We cannot impose these topics overnight." "I believe you cannot overrun or override certain steps just to be in line with what is now the hot potato, you know, so we need, we need to do things properly." - Iuliana Vizitiu, Internal control coordinator at the EIT headquarters. (Vizitiu, 2022) "I believe that these policy changes tend to be evolutionary rather than revolutionary. It is important that there is some degree of consistency and stability in order to allow for the kicks to operate and also to allow us to monitor and evaluate kicks in." (Incorvaja, 2022)

Policy communication

"I think it's very difficult to design policies that they will have more influence on the day-to-day reality. I think that's very, very difficult" Petra Debusscher, Gender expert. (Debusscher, 2022) One of the biggest gaps found in the practice of policymaking is the one between the policy intent (which is more often than not, created by experts and officials far from the intended user) and its implementation. This has been a historic practice and still continues in an attempt to maintain the status quo as it has proven to benefit the people in power. There is an apprehension to disrupt this familiar way of working and actually find ways to involve representatives of intended users.

"And what you often see in the EU, and with regard to gender mainstreaming is that you have a kind of disconnect between the very formal rules and the informal practice on the ground. And this is problematic." (Debusscher, 2022) Apart from the lack of user participation, another reason for this disconnect is the communication of responsibilities and intended action. Due to the EIT being an ecosystem of multiple interconnected bodies as opposed to an independent organization, it is extremely crucial for them to clearly outline what each stakeholder's role is in implementing the policy to avoid miscommunication, have better expectation management and make sure all the KPIs are fulfilled. These roles need to be defined in the policy for the "top management, but also at the line management level, at the level of human resources communication, and with the wider stakeholders, it's really important that you make this explicit and what their role is in implementing the (gender mainstreaming) policy" (Debusscher, 2022)

Lastly, when it comes to communicating the goals and expectations of an EIT policy to all its intended stakeholders, apart from its obvious inclination to the larger strategic goals, there is a need to outline the impact of these goals on each stakeholder so they are motivated towards achieving them. “I find that also a bit tricky because it is also about social justice. You know, it is also about shifting power and making it fair. So, for me, these are also reasons in themselves to implement it. But if you want to convince people it can be a good strategy you need to show them what's in it for them." (Debusscher, 2022)

Policy implementation and impact

Due to the guiding nature of the policies designed by the EIT, it is especially important for them to define larger goals it is set to achieve but at the same time leave room for the KICs to design their own path to get there. Outlining the ‘what’ to achieve is more important than regulating the ‘how’ to do so.

“The strategic guidance is not necessarily dictating what the KICs should do, it does allow a high degree of flexibility, this is fully in line with the EIT’s innovator knows the best model, which I think is pretty unique in terms of the EU Framework Program. It allows the KICs, to implement activities in line with their own strategic priorities in line with their own realities, in line with the needs on the ground.” (Incorvaja, 2022)

However, there is a balance to strike with this autonomy. The EIT headquarters is still responsible to fund different programs at the KIC level that help achieve the strategic goals. And there is a degree of regulation to this funding. “As EIT our role is to ensure that they (the KICs) follow the principles we adhere to because we are using the EU citizens’ money, we are adhering to the values and principles and they must do the same, if not even more.” (Majcher, 2022)

In order to make this regulation as fair as possible, the EIT headquarters evaluates all KICs and their programs based on the key performance indicators defined in their impact framework. This impact framework is created by the EIT in collaboration with the European Commission.

When thinking of the impact a certain EIT policy aims to create and outlining prospective policy actions, there is a need to understand the systematic interconnectedness of these actions across various EIT communities and touchpoints, especially considering these policy actions are designed on a level that is distant to the on-ground implementers. This is true not only for the appointed core team for a certain policy but for all the various program and KIC leads across the EIT ecosystem. “I do make sure that anything I'm proposing, if it has an impact on education, then my education colleague is consulted. If it has an impact on impact, then my colleague dealing with the impact framework is consulted, communications, innovation, business creation, and financial sustainability, are all key aspects of what we deal with. So I deal with the IRS, but everything we do is very closely interlinked” Luke Incorvaja, Innovation Officer at the EIT (Incorvaja, 2022)

8. RESULTS

8.1 Four clusters representing a design-driven policy approach

8.1.1 Cluster 1 – The WHY

Why is there a need for creativity and a design mindset in policymaking?

- ***Because the landscape of innovation is changing***

Looking back at the history of innovation, there was a time when our preoccupation, our work was about creating new solutions, building things that don't exist. Once we figured out systems that work, we went from invention and innovation to managing existing realities.

However, we are now in an era that requires us to go back into the cycle of innovation and find solutions that don't exist as we face a plethora of problems today that didn't exist before. "Not only do we need certain new specialties. But we need to again start to innovate and invent and create that which doesn't exist." (Steinberg, 2022)

A lot of the logic that the practice of policymaking is based on was built in the era of managing existing realities that worked in the past but doesn't work anymore. There are newer, more progressive mechanisms within the realm of policy such as the KICs in the case of the EIT, think tanks, and policy labs in the case of governments. "But these are external entities and the mindsets of main policymaking bodies like governments and these organizations remain the same which is a problem." (Steinberg, 2022)

This is where the potential of design comes into play. The policy process here demands a more innovative approach and this practice of innovation is inherently driven by a design mindset. It has a proven capacity of questioning old logics that are now irrelevant and create something radical.

"(Donad Burns) talked about the observations he made of how designers learn their craft, and that it's neither an art nor a science. But there's actually reflective practice, and that was when I realized that, you know, scientists are always trying to falsify things. But the designers are trying to create something that doesn't yet exist, so it's easy to falsify it, because it doesn't exist. But the hard thing is actually making it come true." (Ryan, 2022)

When it comes to the rigidity of the existing policymaking process, "The realization that is coming now is that we maybe shouldn't even have one certain way of doing policy or the policy cycle should be idiosyncratic, related to what the different contexts are" (Anttila, 2022) Designers are now exploring the idea of having a vast variety of tools and practices at hand and using them to create a policy process that is contextual to the policy problem in question and choosing elements freely from this large set.

- ***Because we need a new 'combinatory' capacity***

Now that we've established a space for design in the policy process, what role does the designer play in this case, what novelty does he bring? "We need people who have the capacity to create new combinations to see across the current logic of things. And so for me, that's what creativity is, it's the basic combinatory capacity, the ability to see how things that exist in different domains connect in new ways to create something new." (Steinberg, 2022)

This statement does not imply that it is only the designer who can bring creativity to the policy process. Creativity is something that is induced by the environment that a certain activity takes place in. "And if you look at how work is organized in ministries, for example, it is a very high-stress environment. People are tunnel-visioned in ways in which they're hit on the hand if they step outside of their lane." (Steinberg, 2022)

The way our systems of governance are built works against this idea of creating combinations and new connections across different bodies of knowledge. There is a consensus to encourage this hyper-expertise-focused way of working. Whereas for us to create new solutions, we need to create new combinations of different kinds of knowledge.

- ***To navigate through the nuanced and complex nature of policies***

Policies are typically created to help the people. But they are also extremely situational and individuals have many different stories in real life. There might be situations where a certain policy might work negatively. To take into account the magnitude of these scenarios and the possible effects of a policy in those, design methods prove to be very useful due to their potential of mapping multiple experiences and creating parallels between them.

Another element that displays a need for creative interpretation is the nature of policies themselves. "(Laws) are not usually that precise. They give some room. The question is, how do you interpret the law? You can make that kind of a strict interpretation or a little bit more flexible one. And the question is which side of the interpretation you are going to use and we have learned to find a way how to experiment." (Nissilä, 2022) This is especially true in the case of complex problems that don't necessarily have one right solution.

8.1.2 Cluster 2 – The WHAT

What is the role of design in the policy process?

- ***It helps discover the core of a policy problem***

As stated in previous sections, the establishment of a policy problem happens at a strategic or political level. But the solution to these problems cannot be discovered without

understanding the situations of policy users. Especially in an open innovation system like the EIT, it is rare that one ultimate policy solution even exists. If there is an attempt to deploy one homogeneous solution on everybody, there might be negative effects on different groups due to the lack of initial understanding of the interconnections between different organizational entities' activities. It is imperative then, to bring together experts from different parts of the system (different KICs) and ask them how they would tackle the policy problem at hand. Only after hearing these different perspectives can we gather an understanding of what the problem is really about and the multitude of elements that have an effect on each other. This helps us identify the core of a problem and bring coherence to it. (Ryan, 2022)

In order to supplement the claim that design is an approach that brings coherence to things, there needs to be an understanding of how coherence is born. "So for me, it's about recipes. We are the masters of recipes. We understand how cultural attitudes, manufacturing processes, and all of these different forces can converge to make a coherent, say, traditional product. And we can do that also in other contexts. So we understand how recipes work, so to speak." (Steinberg, 2022)

By this logic, one might wonder if all industries are design-driven as they all have their own coherent systems. "But if you look at professions, most professions aren't trained to do exactly that. To work across domains of knowledge and understand how to blend different forces to create something new." (Steinberg, 2022) This is where the strength of design is prominent.

- ***It helps facilitate an organization-wide knowledge exchange***

Having established the importance of working across different domains of knowledge, the current policy process works on the contrary. There is an assumption that in order to coordinate something, there needs to be a discussion between people on a very high level who are connected to multiple silos. "However, we've known for 30 years now that, that doesn't actually produce kind of fruitful learning, exchange, collaboration, or these kinds of interesting things." (Reinikainen, 2022)

The field of *portfolio innovation management* has developed methodologies to foster better synergies. In the case of the EIT, a way to achieve more impactful knowledge exchange is to bring together several disparate initiatives (within different KICs) and have them share their learnings, influence, and enhance each other's activities even though they might not be directly connected. This cross-domain system has the potential to surface interesting, multi-faceted ideas. (Ryan, 2022)
This new structure of knowledge sharing could yield really good results because "it takes advantage of the learned experience of all of these different EIT areas who themselves in recent history have demonstrated that they've more or less taken advantage of particular methodologies that are appropriate to their own context. And you're slowly getting away from the idea that the answer is that everybody uses one method." (Reinikainen, 2022)

The gist of this structure is to start off by studying *what* is working (within the community) right now and questioning *where else* it could work.

- ***It helps leverage the connections between different policy areas and problems***

Policies today need to perceive many different elements of one problem area and bring them together in a purposeful and coherent manner. This is because “a lot of what policies are trying to address now are very complex questions that involve human behavior, environmental dynamics, and many other kinds of forces. So to create a functional policy, one needs to be able to actually understand the bigger system. One that is trying to influence and create a new behavior and by virtue of that, you're gonna have to have some way of creating coherence to understand how different things come together. So for me, that's the ultimate design” (Steinberg, 2022)

Now, what does understanding this bigger system entail? There is an approach called systems thinking that is popularly used by designers to ‘zoom out’ when looking at a certain problem to see connections and flows between different aspects of the problem and then ‘zoom in’ on places where there is potential for intervention. These are called ‘leverage points’ which are then used to create a solution and act upon this newfound leverage. “We use design thinking to make changes at those leverage points that are very action-oriented, the very material that can create effects throughout the system.” (Ryan, 2022)

The strength of systems thinking is seeing connections and identifying weak links between policy areas that are not obviously connected and the strength of design thinking is innovation and using these connections and creating something new.

8.1.3 Cluster 3 – The WHERE

Introducing new and more resilient structures for policy creation

- ***From top-down to bottom-up policymaking***

Traditionally, a policy is made by a bunch of brilliant, university-educated people and their understanding of the world, which is not necessarily the same as the people it is intended for. “They (policymakers) come with a new set of rules and then it's thrown from the ivory tower onto people hoping people will change their behavior. We're finding that's becoming increasingly less effective and what we're beginning to find is that policy actually needs to work the opposite way.” (Steinberg, 2022)

Based on experiences and models used by most of the expert interviewees, there is an emphasis on first guiding intended behaviours and then reinforcing them with policies. It is less impactful to first deploy a rule and force people to adapt to it. Instead, there is an

encouragement to study the current ecosystem and find the kind of activities that are aligned with a policy goal and promote those across relevant communities.

“Can we find within society those businesses or those people or those communities that demonstrate the new behaviors that we want? Then identify those new behaviors, and expand on them so more people can adopt them.” (Steinberg, 2022) Once more people begin to adopt this new, preferred behavior that helps fulfill a strategic goal, that is when it should be followed up with a policy and be introduced as the new rule. This new structure promotes both, the internal knowledge exchange and leveraging the connections between different domains as mentioned in the previous section.

- ***Experimentation outside of organizational limitations***

In the context of organizations that create policies, there are often various limitations that delay change or hinder the adoption of new practices. These constraints are seen in the form of political will, hierarchy, time, or resources. Many organizations recognize this dynamic and are testing faster, low-risk ways to counter it.

A popular way to achieve this has been setting up a politically and financially independent body outside of the main organization that can function autonomously without the constraints of the larger one. This is where new ideas are tested and scaled once they are successful.

“We realize that the mothership is always so slow and it's never gonna make it. This is when we spin out a company who’s job is to compete with the mothership in this new market space. It's a little bit like the Titanic puts a life raft out there and the life raft begins to navigate better, then we move more people and grow that life raft into a big ship again.” (Steinberg, 2022)

“What I'm suggesting is that big institutions and organizations can build logics by which they help accelerate these timelines because there are cognizant of the underlying principles which govern timeliness, effectiveness, and innovation.” (Steinberg, 2022)

Based on an example of a successful coalition put together to tackle the recent Ukraine crisis, it was suggested that such external structures adopt a start-up mentality of open innovation. Such efforts benefit from a combination of this start-up mindset and the large organization’s knowledge and connections so that they can pull the right strings to make the right decisions happen. There have been many successful adoptions of this approach by various governments that set up innovation labs (the D9 lab and Sitra by the Finnish government, Policy lab by the UK government, and many more) and by large organizations such as Microsoft which set up sub-companies.

- ***Building networks and incentives to transition to new structures***

To introduce new design practices to the policy process, there is a need to create space for them in existing organizational structures. However, these practices encourage experimentation and testing of ideas whereas most bureaucratic organizations are extremely risk-averse which makes also them anti-innovation. They only see credibility in initiatives that have proven to be positive. But “if something is genuinely innovative by definition, you can't prove it yet. You can if you prototype and test. But because you can't prove it upfront anyone can play the devil's advocate in these large bureaucracies as they have 7 layers of approval, and all it requires is one of those people to be skeptical and then the project gets stopped in its tracks.” (Ryan, 2022)

Based on the experiences of most experts, the only way to work around this contradiction of approaches has been networking within the organization and finding the changemakers who strive to work differently. “It doesn't matter what the person's title or role is in the agency, but they had to at least be someone who is kind of willing to take the charge and willing to learn the process and willing to kind of start to spread the idea in that agency after we left.” (Nissilä, 2022) This effort doesn’t always need to be dependent on the individual. In the case of a large and connected organization like the EIT, it means mapping out different steering mechanisms within the communities and identifying the possible ‘carrots and sticks’ that can help accelerate the desired change. (Anttila, 2022)

8.1.4 Cluster 4 – The HOW

Methods to adopt for an enhanced policy process

- ***Discovery and experimentation***

When dealing with the very first step of the policy process, which is identifying a problem area, a common limitation is seen. This step is often governed by high-level officials with little to no participation from the policy users. As a result, “a lot of the times there are a lot of embedded assumptions, the processes that govern these big ideas are all about assuming that the world is predictive. And yet the questions they ask are all questions of uncertainty.” (Steinberg, 2022) This step is a crucial one in the policy process and establishes a need for experimentation and discovery of multiple possible solutions and ways of implementation as opposed to a deductive, homogeneous one.

To avoid creating a policy that is based on assumptions or selective worldviews, it is imperative that the discovery of the problem is done along with the intended policy users. In the traditional top-down policy model, this top-level is distant from the realities of implementation and is hence unaware of the best possible solutions to a problem. “We actually don't know how to do what we don't know and we don't know what skills we will need to do it. Hence, the thing that we don’t know how to do, we need to sync in an inverse

way. This suggests a more bottom-up way of thinking about things. Questioning, what are some of the new realities that are happening on the ground?" (Anttila, 2022)

This inverse way of looking at a policy area does not suggest disregarding the strategic goals, on the contrary, it creates opportunities to discover novel, consensus-driven ways to achieve them which are not always obvious to the policymakers. This model is more inclusive of the policy users and creates a safe space for experimentation. Once the assumption that the high-level official is aware of the right answer is eliminated, there is an equal opportunity for open innovation and curiosity. "I always think that space for experimentation is always really important in order for people to let themselves go and indulge in curiosity and playfulness." (Anttila, 2022)

The intent of encouraging these attributes is to create evidence and test theories before outlining them in formal policies. This allows for low-risk initial failures and ruling out the logic that doesn't work in order to create a policy that remains resilient in the future. Policy prototyping is now being widely tested with the help of prototyping tools, regulatory sandboxes, policy test beds, and many such methods.

It is important to recognize that the purpose of this stage of the policy process is to discover alternative solutions to achieve a strategic goal and outline these solutions by testing and piloting them instead of in a deductive manner.

"The problem is that those who are launching these big ideas and funding them have a process that assumes that you need to know everything because they're asking you for a detailed budget and outcomes at different milestones. These are not the expectations I would put in place if I recognize that this was a process of discovery. And so there's a huge gap between what we're being asked to do." (Anttila, 2022)

- ***Facilitation and sensemaking***

It is established in *cluster 2* that the strength of design lies in making sense of different domains of knowledge in a coherent way and using this ability to bring valuable, systemic perspectives to a policy problem. While building this coherence, designers also create mechanisms to accelerate and spread relevant ideas across different domains of the innovation ecosystem.

The rigor of a design approach to policymaking lies in the facilitation of idea generation and in the fostering of new mindsets and not in the plethora of methods and toolkits it brings along. "Think of innovation by textbook where you just take somebody who's spent their entire life doing rational policy design, top-down in a traditional way, and then give them a new toolkit. Is that really going to lead to a different outcome?" (Ryan, 2022)

There is a larger goal behind these frameworks and methods, and that is, integrating the design-driven mindset within the existing set of expertise of policymakers. "So we give them room to play, but also give them tools and methods during that play to see how they could use these methods in their own work and then also work with the ministry on a structural

level into thinking what could an integrated process of foresight for the ministries area of expertise look like." (Anttila, 2022)

- ***Participation and dialogue***

"Design thinking means, first of all, starting with both the *beneficiaries* and *victims* of your work, everybody who will be affected. Traditional industrial design thinks of a user, but we think of stakeholder design because when you're dealing with complex systems, there's never just one user. There are many folders of participants. So starting with them and starting with empathy, it's a generative approach which means that you won't have the answer up front. Traditional methodologies first plan the work and then work the plan, whereas design is much more divergent and creative as a process." (Ryan, 2022)

The importance of user participation in the earliest phase of the policy process is critically highlighted in both literature and the experts' experiences. However, it is important to define who is considered a 'user' of a policy as there might be entities that face the ripple effects of certain policy actions and need to be a part of the conversation. The 'portfolio innovation approach' used by the EIT Climate KIC provides ways to map these entities. They have used frameworks to map the ecosystem they work within and created interventions they can act on. Further, each of these interventions has many different touchpoints that involve a more diverse group of citizens, and this extensive mapping activity helps them identify those additional entities and generate more meaningful and stronger signals of the reach of policy investments and the implementation of policy intent on the ground. (Reinikainen, 2022)

The benefits of adopting a participatory practice are also interlinked with the resources spent on policy planning.

"At the fundamental level, it's about trust in the system. 'I'm a politician, I've been elected to make certain ideas happen and, this is my machinery. I should say this is the direction we're going in, and these are the managers that need to make it happen.' The moment the policy intent gets defined granularly from the headquarters as a series of actions, it's missing a dialogue with the field workers." (Reinikainen, 2022)

This dialogue needs to outline a common agreement of what a good policy outcome should look like and provide the field workers (from multiple domains) with an opportunity to define what actions will be taken to achieve those outcomes, these actions would then be integrated into the KPI matrix. This inverse logic of defining policy action provides a more efficient way to determine budgets and other practical elements and saves the resources that would otherwise be spent on consolidating information to determine these.

Another extension of this resource efficiency driven by participation is the opportunity to leverage a mixed ecology of processes. In case of the EIT this could mean creating a forum in which different KICs share their practices related to different policy domains. The headquarters can observe this conversation and determine which processes by which participant are producing positive results in a certain domain that are unavailable to others.

“The smart question then would be how can we start cross-pollinating some of these practices?” (Reinikainen, 2022)

- ***Anticipation and futureproofing***

Anticipation is a virtue of policymaking that helps create resilient policies. However, it is usually external forcing functions that pressure policymakers to think differently, geopolitical forces (like the war in Ukraine right now), or climate change which is an absolute state of emergency. (Ryan, 2022)

There is a dire need for anticipating future disruptions and creating forward-looking policies. A big part of achieving this resilience is the practice of participation as mentioned in the last point. “The predictability and forward-looking element comes from the involvement of different stakeholders and different impact analysis before the policy is implemented.” (Anttila, 2022) For this practice of anticipation to yield effective results, it is important that it is done in the form of a well-facilitated activity with participation from a diverse group of stakeholders. Involving a selective and homogeneous group of stakeholders might lead to adapting to a safe or familiar school of thought. This is seen to be true in the case of EIT’s gender-mainstreaming policy as outlined in *part 1* of the results. “I think this idea of how things are progressing too fast for policy, always strikes me as a bit strange because obviously if there is legitimacy in an institution to create some sort of policy, then change isn't happening too fast. It just means that you're making policy too slow.” (Anttila, 2022)

To facilitate effective anticipation, designers have found futures thinking methodologies extremely interesting as they encourage participants to go into the future as a space that frees them from the daily grind of their expertise. These methods are not only illustrative of the future but also highlight what participants see as important in the present.

The next crucial element to achieve resilient or futureproof policies is the practice of impact analysis andevidence-buildingg before actual implementation. This is the evaluation phase of the policy which comes after the design. There are continuous experiments with different methods to facilitate this analysis. “I think regulatory sandboxes or test beds or policy prototyping are some of the tools that have been kind of used in order to bring this idea of new evidence and also these new stakeholders into the whole cycle of policymaking.” (Anttila, 2022)

However necessary this kind of analysis appears to be, it isn’t a traditional part of the policymaking process. “It is about failing fast and taking risks, and that's not language that resonates with the large conservative body. So I talk about prototyping as a risk reduction approach.” (Ryan, 2022)

Figure 12 by (Dewsbury, Taylor, & Edge, 2002) proves this statement. The cost of making a fundamental change in policy grows exponentially over time, hence, it is imperative to derisk the project by prototyping policy and getting valid feedback as early as possible. “The

point is not to build the entire project and then test it, but you actually get the early user testing done as early in the design process as possible, so that if you do need to make a pivot, that pivot is cheaper." (Ryan, 2022)

Policy prototyping does not simply entail testing the intended action with people responsible for its implementation.

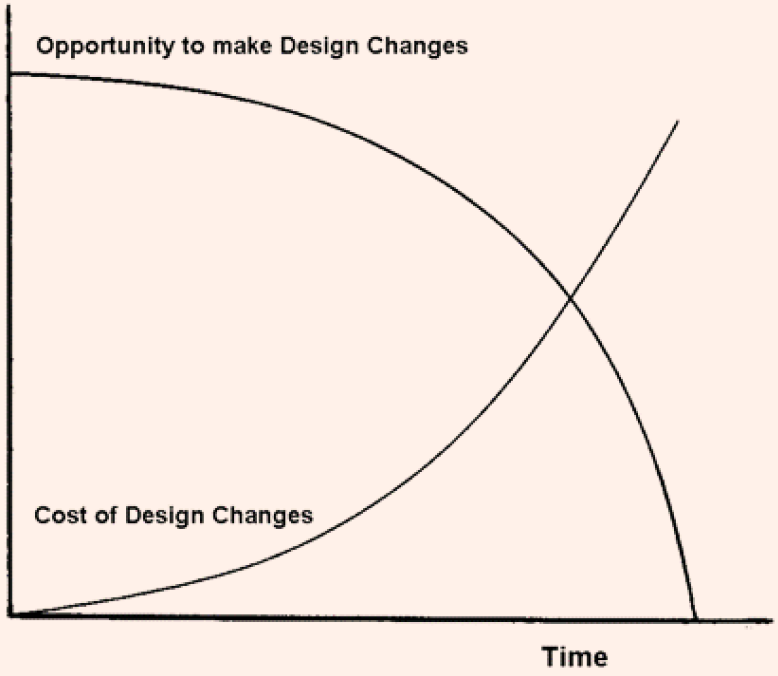


Figure 12: The opportunity to make changes in design vs.cost

It requires us to follow a policy downstream to where it becomes an experience for citizens. "One thing about prototyping policy is you have to find all the ripple effects and all other touchpoints because people don't experience policy, they experience how policies are manifested into systems." (Ryan, 2022)

Hence, the motive is not to prototype the whole policy but to find those touchpoints that people will interact with and build a very tangible prototype that can be quickly tested to gather feedback. For example, an environmental protections act where one of the actions is eliminating plastics from the supply chain. The downstream touchpoint here would be the experience of a user at a supermarket checkout and that is where the positive and negative impacts of the policy should be studied.

9. PRACTICAL IMPLICATIONS FOR THE EIT

After studying design-driven policy practices from an epistemological standpoint and comprehending the logic, structures, and methods for implementing such a practice, three alternative policy scenarios for the EIT headquarters have been outlined in this section.

These scenarios do not replace the entire policy process. They are placed in the initial discovery and planning phases of policymaking, an area that this study found to have a critical need for design approaches. Their goal is to provide more efficient and sustainable methods for defining policy goals and determining relevant action points.

9.1 Three alternative policy scenarios based on the suggested design-driven approach

- ***A bottom-up policy cycle***

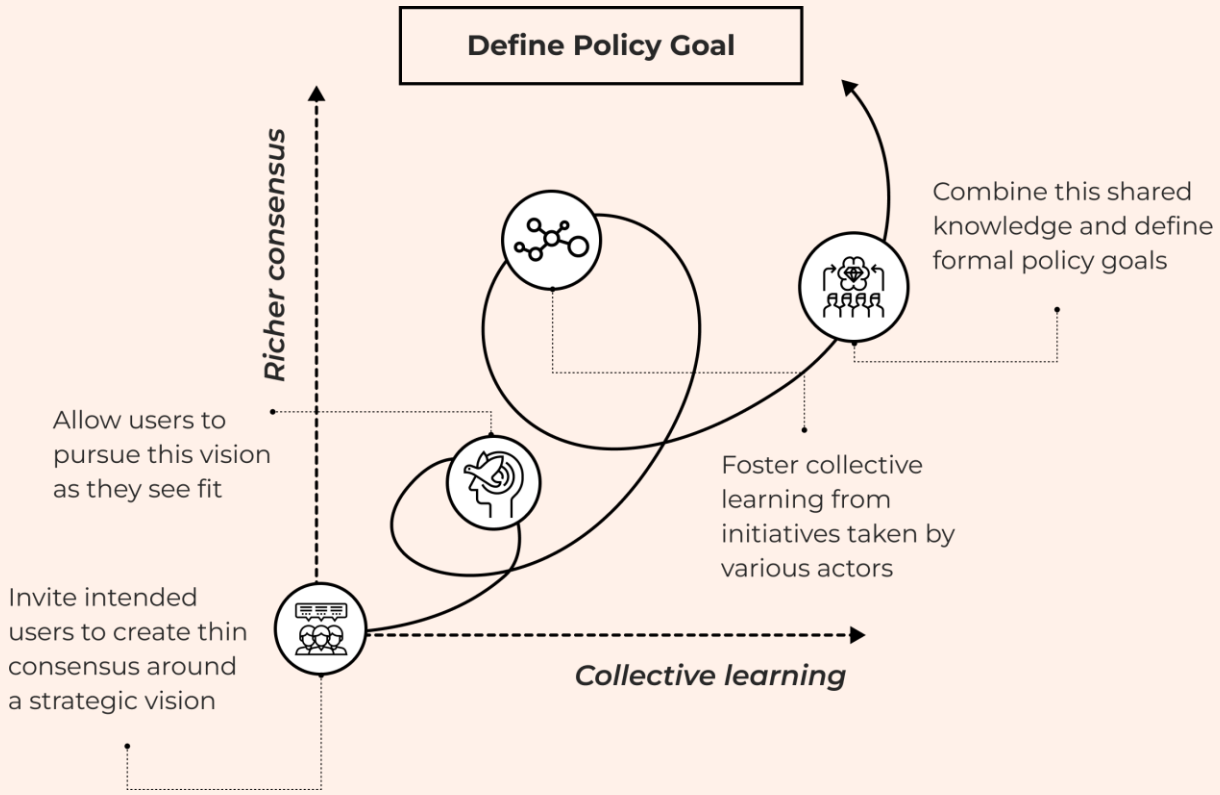


Figure 13: Alternative policy scenario 1: A bottom-up policy cycle

Adapted from: The 'Humble governance' model by Demos Helsinki *(See appendix)*

This scenario of a bottom-up policy cycle encourages the EIT headquarters to involve relevant stakeholders (people with first-hand knowledge of the problem in question) in defining a policy goal. It is based on the idea of a 'Humble government' outlined by (Annala, Leppänen, Mertsola, & Sabel)

The primary goal here is to move away from the idea that all knowledge and solutions to problems from varied domains lie with one central entity (the headquarters) and display humility by collaborating with various beneficiaries of a policy. (Mertsola, 2021)

The first step in this scenario suggests the creation of a 'thin consensus' around the understanding and definition of a policy area in collaboration with the intended users of the policy and relevant stakeholders. "A thin consensus can be defined as a shared understanding leading to agreement on the urgency of a problem in a particular domain, the broad framework goals to be pursued in its solution, and, circumstances permitting, core values that underpin them." (Annala, Leppänen, Mertsola, & Sabel)

Once there is an initial common understanding of these goals, the users (EIT KICs) should be allowed to autonomously pursue these goals in a way they see fit. To support this practice, it is crucial to develop positive feedback loops between the KICs and the headquarters and create strategic incentives for the KICs to participate. This step results in a more efficient way of determining policy action as the knowledge is being created from experiences on-ground.

Next, it is important to create a mechanism where activities pursued by different KICs to achieve the goal and their learnings can be shared across the different EIT communities including the headquarters. This helps identify weaknesses in the system and share successful practices.

Lastly, from all the knowledge that is continuously generated in this iterative process, the formal policy goal should be revised to reflect the gathered learning.

"A humble policy-making process creates a thicker consensus over time, as inclusive collaboration based on deliberation makes it possible for goals and metrics to be redirected and further specified as new information arises." (Annala, Leppänen, Mertsola, & Sabel) This approach also strengthens trust between various stakeholders as collective learning is fostered. (Annala, Leppänen, Mertsola, & Sabel) also outline the main difference between conventional policy-making and humble policy-making in *figure X* (See appendix)

- ***An ecosystem-wide value-sharing mechanism to help achieve a policy goal***

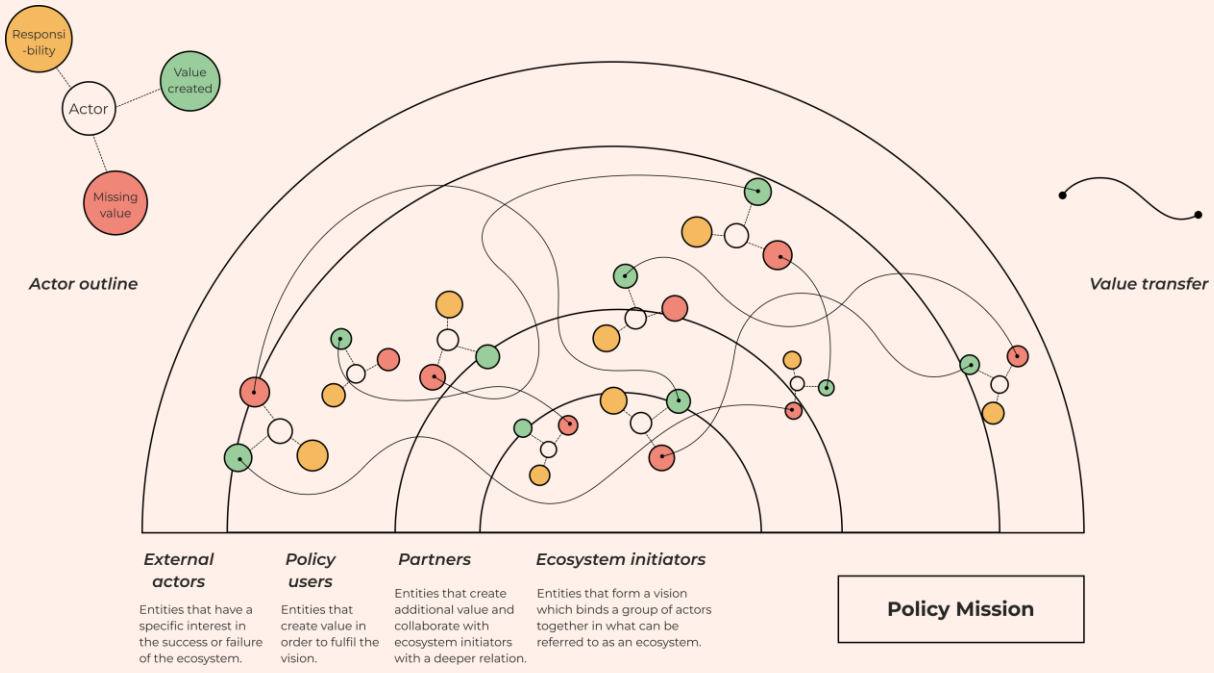


Figure 14: Alternative policy scenario 2: Ecosystem-wide value sharing

Adapted from: The platform-way-of-working toolkit by UNDP and the Danish Design Center

As emphasized in Cluster 2, ecosystem-based organizations like the EIT need a mechanism that helps them leverage all the knowledge that exists within their different communities. This scenario aims to prevent the loss of created value across silos, helps visualize weak links, and helps connect different domains of knowledge in new ways.

An example of this lost value within the context of the EIT is the 'challenge-led systems mapping handbook' by the EIT Climate KIC which is extremely relevant as an approach for the EIT headquarters and perhaps many other KICs, but there is currently no systematic way to leverage this knowledge in a way that benefits the whole community.

This system of idea and practice cross-pollination will, in the long run, strengthen innovation within the EIT, foster more impactful policy action, and unite the community around a common policy mission. Finally, it provides the EIT headquarters with an overview of the ecosystem and allows them to identify potential inefficiencies.

In practice, this scenario encourages the EIT headquarters to map the ecosystem of the EIT as a whole and undertake the role of 'ecosystem initiators'. This role requires them to develop a vision that brings together various actors in what is known as an ecosystem. This vision can be related to a particular strategic goal or a policy area. This policy goal or mission

should be clearly defined because it serves as the foundation for identifying and outlining relevant actors.

Once this vision is defined, three types of actors must be identified: partners, policy users, and external actors. Partners are entities that add value and are closely linked to the ecosystem's initiators. In the context of EIT, this could correspond to the European Commission, an internal EIT unit, or any other entity with influence or control over the outlined vision.

Policy users are entities that generate value and take actions that contribute to the vision's realization. This group could include an EIT KIC as a whole, as well as individual businesses, universities, startups, or even an EIT program. These are the actors in charge of putting the policy into action.

Finally, external actors are entities that are not necessarily directly involved in policy creation or implementation but are affected by the system's success or failure. This actor could be specific businesses or citizens affected by the work of a particular KIC, and also public or private institutions outside of the EIT. The purpose of identifying these actors is to understand the repercussions of policy actions as well as the external influence on policy goals.

To make the aforementioned mapping more effective, it is important to not only identify the entity but also highlight its responsibility in relation to the policy mission, the value they are already creating to accomplish that mission, and the value that is missing for them to perform even better. The reasoning behind using this format is that it provides a comprehensive view of all existing value and gaps in relation to the policy mission, as well as a visual way to enable cross-pollination and sharing of this value across the ecosystem.

- ***Backcasting policy action and anticipating disruptions***

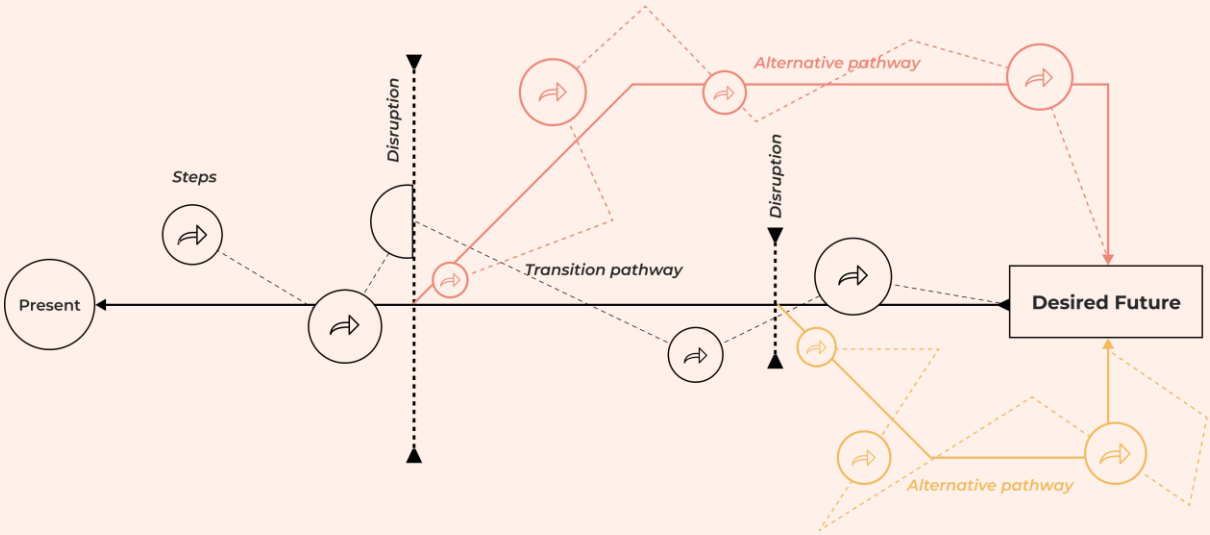


Figure 15: Alternative policy scenario 3: Anticipating disruptions

Adapted from: The Backcasting model by (Irwin, 2018) and the 'developing antifragility' framework by the Disruptive Futures Institute.

This scenario begins with the backcasting model, which is commonly used in policymaking because it fits the agenda of first outlining a strategic goal and then providing a roadmap to get there from the current state. (Irwin, 2018) discusses the idea of backcasting as progressing from a co-created future vision to create a transition pathway from the present to the desired state. All actions outlined to achieve this state are represented as steps on the transition pathway.

The first and most important step in this process is to identify a vision for the desired future with the actors who influence that future. Following that, identify the gaps between the present state and the desired state and outline the steps to get there. However, prevalent literature and this research have established that current policy problems are ones of extreme uncertainty, and one linear transition pathway is no longer a realistic way to achieve the goal. As a result, it has become critical to predict potential disruptions in a specific policy area in a comprehensive manner and design alternatives that can withstand those predicted disruptions.

Disruptions aren't necessarily bad, 'they are simply accelerating'. (Spitz, 2022) And, because they are becoming more common, systematically predicting them is an important activity to ensure that we can leverage these early predictions, deconstruct the patterns of sudden changes, and foster innovation despite uncertainties. This concept of building resilience and 'thriving on disruption' is described as 'developing antifragility' by (Spitz, 2022) This scenario encourages anticipating future disruptions in a policy area in collaboration with subject

matter experts and related stakeholders, as well as developing multiple potential alternative steps to make the final policy as resilient to future changes as possible. A significant finding in this study was the strong correlation between policy resilience and policy impact. A resilient policy is synonymous with an impactful policy.

Outlining these disruptions, however, requires far more than traditional auditing and market analysis. It urges the investigation of societal megatrends, strong and weak signals, disruption networks, wild cards, and other factors. (Spitz, 2022) 'The definitive guide to thriving on disruption' offers extensive tools for effective prediction.

This final scenario encapsulates some of the most important aspects of a design-driven policy approach. It promotes the collaborative identification of a policy vision, leverages shared knowledge across the entire EIT ecosystem, and introduces a practice of anticipating the future.

10. CONCLUSION

The goal of this thesis was to identify the value that different design methods bring to policymaking processes and to introduce these value-accelerating practices to the EIT headquarters to help them create more impact through their policies. It did so by reviewing literature that systematically outlined the need for policymakers to adopt a design mindset and introducing underpinnings from the fields of user-centered design, participatory design, and foresight.

Furthermore, this study identified the most important aspects of design that aid in the development of stronger, more resilient, and more inclusive policies based on the practices of experienced design professionals who discovered these theories after decades of testing and learning.

The findings of this study are presented in a guiding manner in an attempt to establish a design thinking capacity within the EIT headquarters, beginning with normatively reasoning the need for new practices around policy development, determining the roles of design within the organization, strategically situating these roles within the organizational structure, and introducing ideal methods to effectively adopt the suggested design-driven policy approach.

The study's goal in outlining the why, what, where, and how of this new approach was to serve as an introductory guide for the EIT in establishing a design orientation within their organization. The approach was supplemented with three alternative policy scenarios to be implemented by the EIT headquarters, which include the most significant findings from this study, namely: the urgency to transition from an imposing and deductive policymaking model to a collaborative and discovery-based one, from siloed policy implementation to an ecosystem-based shared innovation model, and a shift from linear and slow policy adaptation to resilient and future-proof policy creation.

Some of these scenarios may not work in a particular policy domain due to the nature of the policy problem, the difficulty of incentivizing participation, generating consensus around a goal, or other such constraints. The objective of these scenarios is not to homogenize them within the policy process, but to serve as frameworks for determining relevant policy action.

Instead of studying a problem through the lens of a specific design framework or tool, one significant learning from this research was the importance of identifying the core of the problem in an abductive and collaborative manner and then using relevant design methodology to tackle it. There are numerous design tools available today, but they should be viewed as supporting elements rather than final processes. This was also a significant personal discovery about the changing nature of the design profession and the ability of designers to get to the heart of a problem and deploy the most effective design framework to that specific context.

Finally, while the propositions of a design-driven policy approach and alternative scenarios may be addressed to the EIT headquarters, the underlying ideology of this proposal and the

mechanisms introduced are incredibly relevant for any organization (public or private) with the capacity to develop policies.

10.1 Limitations of this research

The primary limitation of this study was the small sample size of the expert group, which consisted of five experts from widely disparate institutions in the field of policy design. A chance to broaden this group would have resulted in the creation of a comparative data set. Because these experts came from very different backgrounds and worked in different capacities with policymaking, all of their experiences related to design value were given equal importance in the analysis. This made evaluating and comparing the insights difficult, resulting in the identification of a lengthy but comprehensive design-driven approach. The evaluation of which design methods were most commonly used, as well as their comparison to identify a superior one, was beyond the scope of this study.

Another challenge in this research was navigating the nuances of various policy domains. Because this study did not focus on a single policy area, there may be some recommendations that do not apply to specific policy domains. Most organizations contextualize their policy process for different policies based on their situational constraints. As a result, homogenizing all of the suggestions is difficult; however, they establish all of the foundations for the mindset required to adapt to any policy area.

10.2 Conceptual implications to the field and suggestions for future research

This study shifts the design practice's discourse from policy implementation to the very early policy conceptualization phase. A significant portion of the literature has emphasized the critical importance of reorienting design practices within the policy-making process in order to maximize their potential. It also introduces mechanisms to eliminate the linearity of popular policy development models, allowing policy studies to investigate the broader significance of such mechanisms.

This study aided in the identification of numerous avenues for future research. I'd like to focus on two of them in particular. The importance of systems thinking and speculative design practices in the future of policy development were affirmed by the design experts.

Policies are always a component of complex systems with many creators, stakeholders, and influencers. They have the power to determine whether these systems succeed or fail. They may appear to be simple directives, but they always have repercussions on major functional elements such as innovation capabilities, culture, resources, ethics, and much more. The field of systems thinking, and complexity theory has extremely relevant developments that have the potential to positively transform policy-making practice, and this can be an interesting area of research.

Finally, in order to thrive in our ever-changing society, policies must consider a variety of radical future scenarios. The current forecasting practice may not be adequate. In order to stimulate richer anticipation, newer developments in the field, such as speculative design practices and design fiction, could be investigated in relation to the policy conceptualization phase.

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Table of figures

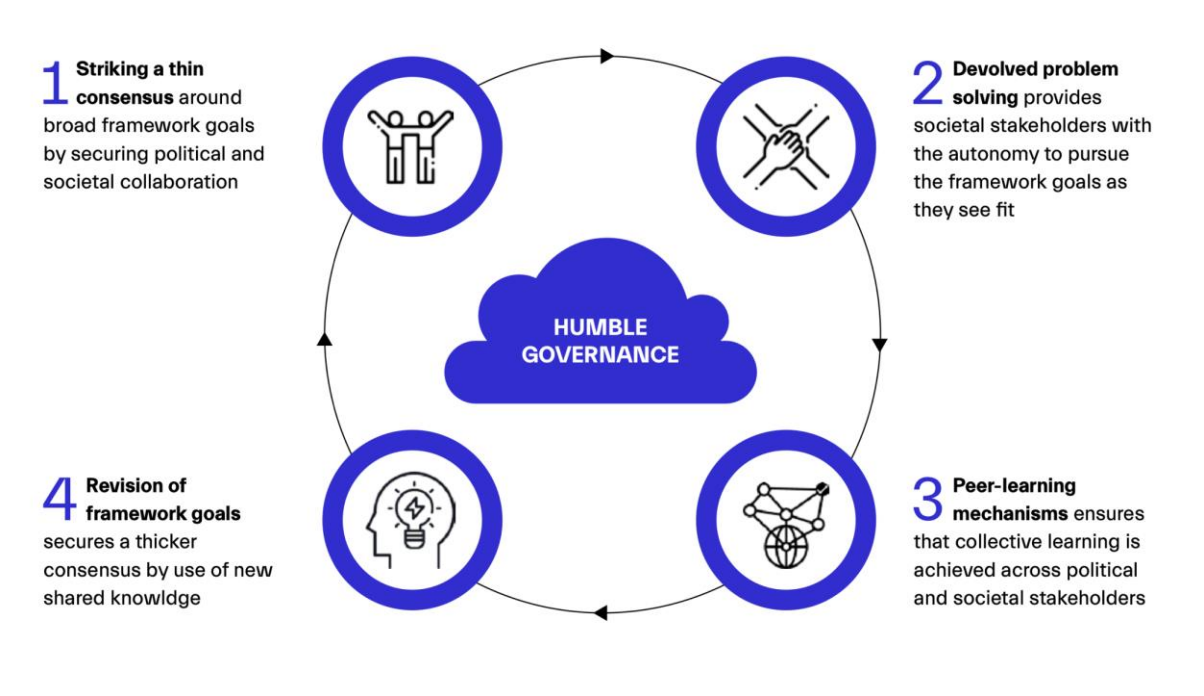
12. APPENDICES

Framework references for proposed alternative scenarios

Scenario 1:

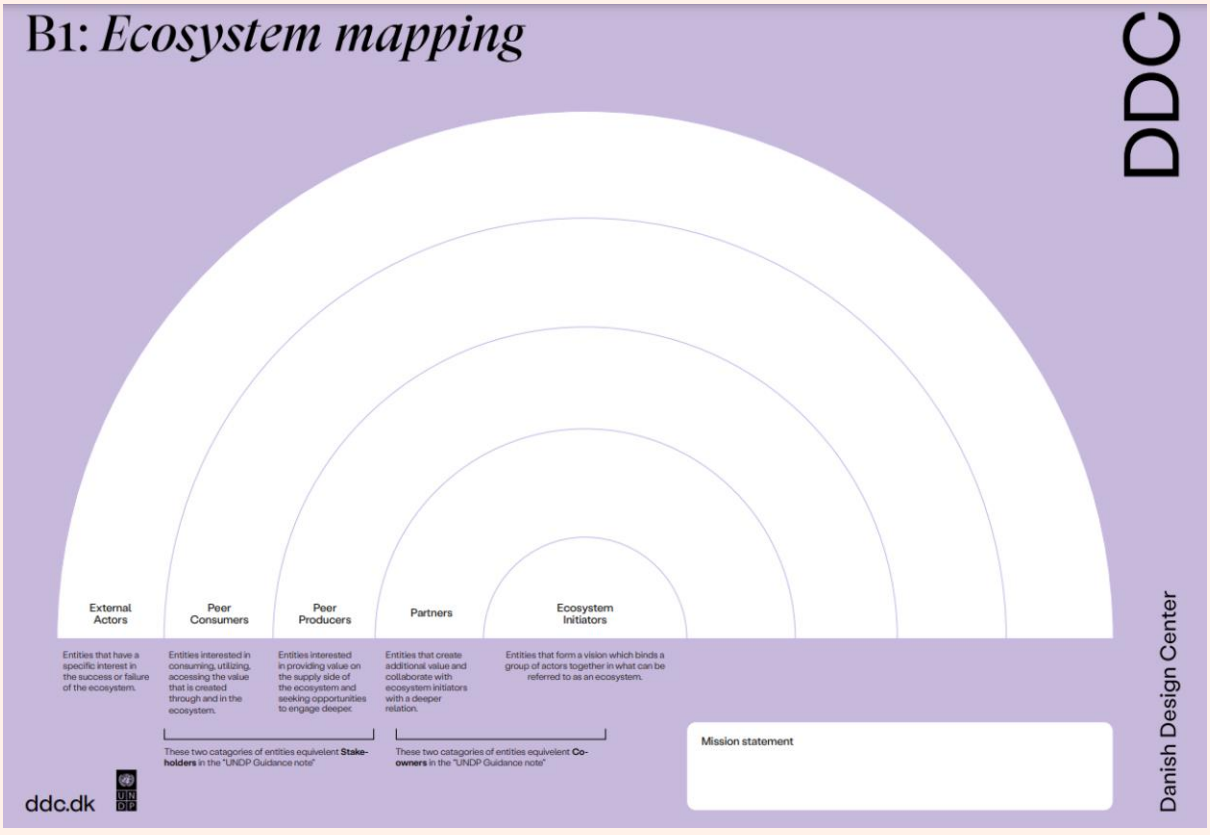
	Conventional policy-making	Humble policy-making
Goal of deliberation	To resolve problems	To create a (thin) consensus on the framing of a problem
Policy goals	Definitive and linear	Framework goals in which a common direction is agreed upon, and mandate is given to a humble policy-making approach
Knowledge-base	Knowledge acquired *ex ante* and can be transferred from one context to another	Knowledge acquired throughout the process and after enactment
Goal of enforcement	To detect deviations from and compliance to fixed policies	To detect gaps and ambiguities in current policies and practices to enable revision of them
Method of enforcement	Sanctions to induce proscribed behaviour	Incentives are designed to induce continuous development through peer learning

The main difference between conventional and humble policy-making outlined by (Annala, Leppänen, Mertsola, & Sabel)



The Humble Governance framework by (Demos Helsinki, 2021)

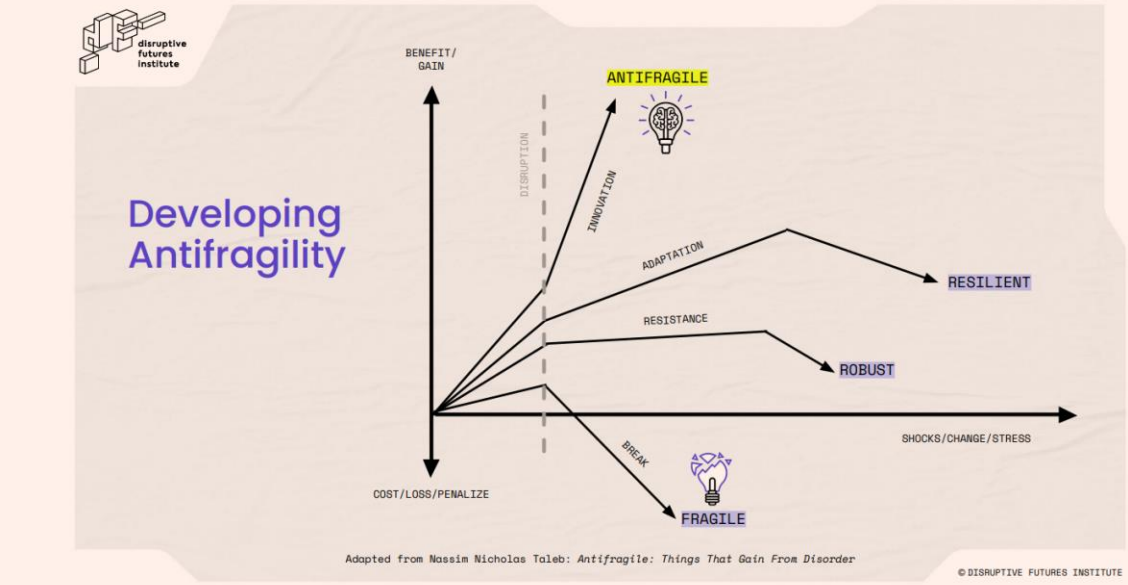
Scenario 2:



The Ecosystem Mapping Tool by UNDP and the Danish Design Center. The entire toolkit can be found here: ddc.dk/tools/toolkit-undp

Scenario 3:

Figure 10: Backcasting from a co-created future vision creates a "transition pathway" along which new and existing projects can be connected and situated as "steps" in a long transition toward the desired future. Source: T. Irwin, G. Kossoff, C.Tonkinwise. (Irwin, 2018)



The Developing Anitfragility framework by the Disruptive Futures Institute from VOLUME II: Essential Frameworks for Disruption and Uncertainty. Source: www.thrivingondisruption.com