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Impact The Future By Design

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Unlocking the democratic potential of design capabilities in public management

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Public management needs to keep pace with contemporary problems and harvest capabilities to meet future scenarios. Consequently, practitioners in the public field must advocate for critical discussions and engage with people who are going to benefit from their guidance. The purpose of the current research is to investigate strategies to strengthen public management by exploring the potential of Design Thinking as a policy competency. A participatory design approach has been selected to co-create a learning environment for building design capabilities. In other words, a safe space that allows for sharing and nurturing knowledge, skills and attitudes. The setup of the participatory process entails a thorough exploration, in which a team of seven public managers of a regional association of municipalities participated. In four participatory sessions, a learning space has been iteratively prototyped, and finally evaluated in the context. Advantages and challenges to the selected approach are discussed to provide guidelines for a practical application and replication of the process within the target domain. It can be concluded that design interventions developed with the current integrated design approach have demonstrated viable opportunities for capacity-building in public management.

Keywords: Participatory Design, Design Capabilities, Learning Environment, Collaboration, Public Management, Capacity Building, Co-reflection

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Introduction

Over the past 20 years, design practice has been successfully introduced in other domains, until reaching, in the last decade, the social and political spheres. As a consequence, industry, academia and the public sector are increasingly becoming aware of the positive effects that the implementation of design tools, techniques and mindsets can bring to the development of new products and services. The incremental innovative power kickstarted by the adoption of Design Thinking in other fields has not gone unnoticed in policymaking, stimulating curiosity and attention within the public sector. Consequently, local and global governments are starting to include Design Thinking traineeship and education in their agendas. For instance, in New Zealand and several countries within the EU, design practice has gained a central role in policy development and innovation. While an understanding of design-related approaches in external domains exists in literature, their focus is mainly grounded in business rather than social development (Dorst, 2019). As a result, design tools, methodologies and mindsets have a limited application in the public field, merely focusing on outcomes, and missing the opportunity to foster radical and diffuse innovation at an organisational level.

In an open letter to the design community, Manzini and Margolin (2017) addressed the necessity for focusing on the democratic impact that design processes can diffuse within society. According to Manzini (2015), the 'diffuse design' process, which is the act of enabling non-design-trained individuals to nurture their intrinsic design capabilities, is likely to allow those individuals to apply the process by themselves on other individuals. Therefore, it can be assumed that after understanding the potential of Design Thinking (knowledge, skills and attitudes), public managers would be aware of the social impact they can foster employing these techniques and generate an innovation loop by involving citizens. However, to master design capabilities, practitioners in the public sector must be empowered with adequate tools and know viable courses of action. Here lies an enormous opportunity for designers to bridge the gap between the two domains by codifying active learning processes for public managers. Design education is an interactive learning process, and it usually follows a non-linear path (Bakarman, 2005). The process implies in the first moment recognising and individuating relevant knowledge, skills and attitudes to be combined to reach the aspired competencies. Competency is presented by Vinke (2003) as the ability of an individual to select and use the knowledge, skills, and attitudes that are necessary for effective behaviour in a specific social or learning situation. In other words, competencies may be considered as the interface between the learning act and the innovation process. Attitudes represent a profound driver of personal behaviours, since they are deeply grounded, and, unlike skills and knowledge, they are much harder to 'unlearn' (Cebrián & Junyent, 2015). Whereas knowledge and skills can be assessed, attitudes are hard to make measurable. It can be said that knowledge represents the 'know what' of the learning process, whereas skills characterise the 'know-how' and attitudes the 'know why'. Therefore, in a learning process, oriented towards capacity-building, attitudes should represent the first element to be discussed, to determine the skills to be learned and the knowledge underpinning the proposed skills. The current work elaborates upon how Design Thinking knowledge, skills and attitudes can benefit the public management field, and they are exploited as building blocks for the co-design of a learning environment for design capabilities development.

The rest of the paper is structured as follows: the next section presents the background and motivation for the study, followed by the description of the approach adopted for the current work. Consecutively, the learning environment obtained as the resulting design of the study is extensively presented. Finally, the effects of the learning environment are discussed and evaluated.

Background and Motivation

Participatory Design (PD) has its origins as a practice to democratise workplaces and empower skilled workers, by making them act in public decision making within their companies (Björgvinsson, Ehn & Hillgren, 2010). However, due to historical transitions happening in the past two decades, such as globalisation, latest IT implementations, and significant changes in the political landscape, Participatory Design has dramatically broadened its scope. Simultaneously, PD has been scaled up to a bigger context: the human public and relational sphere in cities. Therefore, to consciously design for a transition, like the participatory turn, it is crucial not only to strive for an outcome, but also to understand how such changes are conceived, enacted, governed and managed (Boehnert, Lockton, & Mulder, 2018, p. 892). The design process plays a central role, representing a holistic view of the interconnectedness of social practices and human values and capabilities. The general perspective of PD shifted from 'democracy at work' to 'democratic innovation', from equality to equity and from low to high polarity amongst public managers and subsequently citizens, thanks to the agonistic approach, framed by PD

methodologists (Kensing & Blomberg, 1998). This change of polarity affected the citizens' involvement in the public debate, by decentralising it and making the antagonism prevail on the agonism. Hence, the difference was about the context of PD, from a more private and therefore comfortable discussion to a public and complex one. Complexity entails a multitude of forces that we can control and channel (Portugali, 2011), but hardly foresee. Parallelly, we have seen how publics grow around attachments in the public debate (Le Dantec & DiSalvo, 2013), and therefore around practices. However, participants still need regulations and rules to reach a consensus through an agonistic debate, based on a constructive and dialogical competition, as opposed to the antagonistic debate (Mouffe, 2016). The designer has been increasingly recognised as a key professional figure, that can act as a facilitator and mediator (Manzini, 2015) to ease this transition and nurture citizens' skills, more than merely teaching unilaterally. In the current work, the role of design is elaborated to foster productive and bilateral collaborations between public managers and designers. The main objective is to design a learning environment as a safe space in which social innovation can flourish, and skills are shared, nurtured, and continuously influence and support the development process.

Design Thinking relevance for public managers

The main objective to make Design Thinking work for the public domain is to codify the design process in such a way that allows non-designers to use it and understand it in a clear and unbiased way (Bason, 2018). Such a radical shift can notably impact practitioners' mindset, and consecutively reframe their entire organisational and operational culture (Elsbach & Stiglani, 2018). Although public managers are familiar with problem-solving approaches and strategies, often there are difficulties in recognising and framing the problem in the early stages of the process (Blomkamp, 2018). Therefore, Design Thinking represents a valuable resource for societal development fostered by the public realm, because it can overcome the traditional problem-solving setting, and move to a holistic approach, allowing public managers to decompose complex problems in sub-challenges (Hertogh & Westerveld, 2010). It can be said that the relevance of Design Thinking does not lie in the mere application of a pre-constructed methodology or toolbox since they can either be too broad – therefore not in line with the desired scope – or tailored on other types of needs and values. Instead, the value of Design Thinking lies in a real-word oriented and empathetic declination of it (Kimbrell, 2012), favouring a reflection-in-action mindset (typical of design), over a reflection-on-action one, which can help with dealing with uncertainty and moderating conflicts (Guindon, 1990).

Facilitating Design Thinking to public managers

Design practice offers to the public realm a unique opportunity to foster collective creativity because it allows to tolerate, decompose and tackle complexity and to flatten hierarchies (Huybrechts, Benesch & Geib, 2017). In such a way, it enables a deep understanding of Design Thinking knowledge, skills and attitudes, while framing the approach according to specific and relevant functions that can vary depending on the field of application. Therefore, a fundamental indicator to evaluate the public managers' design learning path is the quality of their engagement with the new methods and tools (Kummitha, 2019). Subsequently, the challenge will be discovering what kind of tools are suitable, and how to tailor the approach to the desired target group, focusing on values and experiences.

In order to get a first-hand understanding of public managers' capability development processes, the current study has been developed in collaboration with a public association operating contextually and into EU-wide projects. The goal of integrating research and practice is to evaluate how design can support the public managers' working and collective learning process by transferring to them Design Thinking knowledge, skills and attitudes. A primary focus is put on both their context and the way they interact with it at a local level. Due to the complex nature of the domain, its characteristics are defined by how the users interact with it. Factors such as social dynamics, participation and design capabilities are peculiar features of the context, and therefore can have a notable impact on the research and design process. The activities are designed and executed in the participants' native language, to set necessary conditions for participants to relate to the process and all the contents. By using a familiar language, public managers are enabled and encouraged to express freely and without filters, allowing for rich and more personal insights. The next section details the approach adopted for the current study.

Approach

The primary design challenge in the current study was creating a learning environment for public managers in which design capabilities can be shared and nurtured. Contemporary public managers need to be equipped for the complex challenges they are facing. It is therefore assumed that by fine-tuning their skillset and practising design capabilities, they can reshape their dynamic environment, and make it resilient and adaptable to the problems they will encounter. The study is informed by practice-based design research, which generates knowledge while designing. Therefore, a Research through Design approach (Stappers & Giaccardi, 2018) has been chosen, as an iterative process offering the opportunity to build, test and draw insights and learnings from prototypes and sessions. Such an approach nurtures the design knowledge incrementally, and by giving first-hand experiences to the participants, that can try out, learn and envision the changes. Hence, it can be assumed that through this approach, the public managers will be likely to implement these practices in their way of operating. Each one of the iterations will come with specific objectives, to diffuse design knowledge, skills and attitudes within the company.

Study setup

The process of the current work is structured in three iterative Cycles, respectively called 'Reframing the challenge' (Cycle 1), 'Designing the learning environment' (Cycle 2) and 'Evaluating the impact' (Cycle 3). The cycles have a research purpose, being led by research questions that allow for having a focus on relevant aspects to be evaluated. The respective research questions for the study are:

- What are the prominent factors underpinning a capability development process in public management?
- How might a learning environment unlock the democratic potential of design capabilities in public management?

Figure 1 shows the structure of the study, which can be represented as the second diamond of the Double Diamond Design process structure, ideated by the UK Design Council (2005). Although, the current study focuses exclusively on the second diamond ('Develop' and 'Deliver' phases), it elaborates upon previous work (Rita, 2019), where both a literature and a contextual study were performed, covering the 'Discover' and 'Define' phases of the DD design process. The previous research provided inputs to define the approach and design requirements (see the next subsection) for the current study and uncovered significant design challenges to be addressed while designing in public management. The design challenges will be extensively presented in Table 1, at the end of the current section. Due to the abstract and multifaceted nature of the available data, a qualitative research approach was chosen. The current project consists of four Participatory sessions organised in three cycles. Each session has its own goal and outcomes informing the following one. The first exploratory session is performed during Cycle 1, whereas Cycle 2 includes two iterations. Finally, Cycle 3 will close the study with the last evaluative session. Throughout the three phases, the design of the learning environment is incrementally developed, and every Participatory session focuses on addressing specific challenges. The first three sessions target one of the design requirements, whereas the last session has the goal of evaluating the learning environment in its entirety.

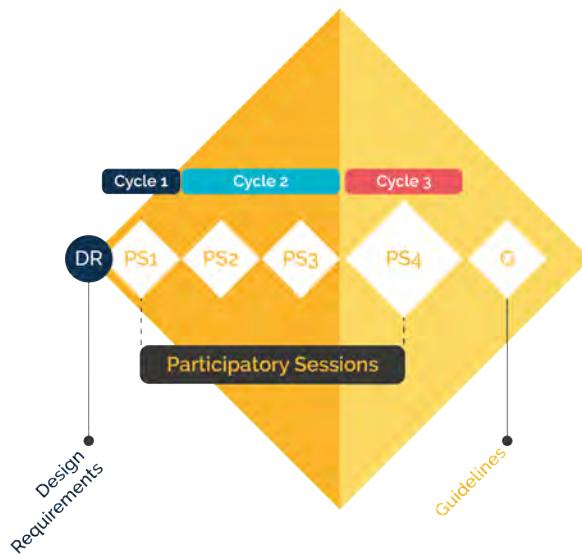


Figure 1 Study setup represented on the second diamond of the Double Diamond Design process

The learnings from the sessions will serve as a theoretical basis to lead the discussion on good design practices for the public sector. In this case, a deconstructive approach will be taken, and existing theories and notions will be disassembled, and analysed by the team, resulting in a design tool or framework, enriched by contextual factors and public managers' values. The insights gained from each iteration will inform the following step of the process and converge at the end of the study to a unified set of guidelines.

Design Requirements

As mentioned above, the current study elaborates on previous work (Rita, 2019), where both a literature and a contextual study were performed. The research pointed at a lack of dialogue between public managers on how their goals should be aligned with personal values. Moreover, the participants in the study indicated a lack of structure and flexibility in their usual problem-solving process. The following design requirements were formulated as evaluation criteria for the learning environment to fulfil, and to allow for a final assessment of its effectiveness in practice:

- **Supportive:** The elements of the learning environment should be in line with public managers' values and bring together their personal and professional inclinations.
- **Modular:** The learning environment should be composed of different elements to offer a wide range of activities. Those elements should be recognisable, and their purpose should be clear, even if they have multiple ways of use.
- **Adaptable:** The elements composing it should be useful for different purposes yet keeping a focus on what the users want to achieve. Adaptability can mitigate pressure by offering multiple solutions, even when the problems are multi-layered.

Participatory Sessions

Participatory sessions generate a unique advantage of allowing participants to take ownership not only on the results of a process but also on the process itself. Sessions are outlined in Participatory Design literature as short, organised, informal and immersive learning experiences (Malcolm, Hodkinson & Colley, 2003). The type of learning in such a format is purely experiential and collaborative, and it enables participants to test and evaluate prototypes in a familiar environment. During the current design research process, the sessions have been held in the participants' context, allowing them to express their deep knowledge by disclosing what they "know, feel and dream" (Sanders & Stappers, 2012, p.56).

Sessions content

Each Cycle contains different activities yet keeping a similar structure. The sessions start with a seminar covering relevant design knowledge needed for the day (20 mins). Following the symposium, two or three Participatory activities are distributed over 4.5 hours. Each one of the Participatory activities is structured according

to the complexity of the goal set for the day. The aim is to address the challenge yet maximising the learnings by prototyping and discussing.

Participants

The participants' sample consists of seven public managers, four females and three males, recruited using purposive sampling. The selection criteria are that they belong to different departments of the company (three from the project management office, two from administration and two from the social services office), and diverse backgrounds and expertise.

Prototypes as discussion and co-reflection tools

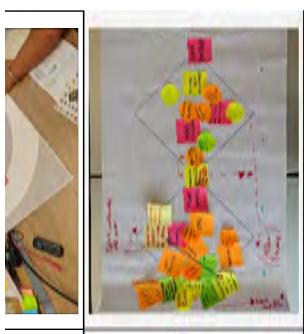
Prototypes have been designed not only as concept iterations but also as fundamental data-collection tools, specifically designed to stimulate discussion and co-reflection, with the intent of gathering users' knowledge and insights. Prototypes can be intended as 'learning devices' (Burkett, 2016) because they are usually steps of an incremental process, and every iteration performed on a prototype informs the consecutive stages of the project.

Data collection

A variety of methods have been used to collect data. Observations, audio/video recordings of the sessions and prototypes intended as co-reflection tools are the selected methods to collect data, since they allow for uncovering non-measurable information, such as experiences, values, etc. (Patton, 2002). The chosen data collection methods complement each other and provide a complete picture of the analysed context. During the Participatory sessions, the facilitator observes and takes notes of how people act and behave while interacting with the prototypes and between each other. Moreover, audio/video recordings of the sessions are collected upon participants' consent, to recover information that might not be captured by prototypes or observations.

Table 1 below provides an overview of the performed participatory sessions. The first column focuses on the main goal of each session, whereas the second one describes the addressed design challenges. The third column shows the design requirements that are targeted, and the last one summarises the design inputs. The former are prototypes produced during the session that informed the design of the components of the learning environment. The elements of the learning environment will be extensively presented in the next section.

Table 1 Overview of the participatory sessions

		
<p>Deconstructing existing theories, notions and models and analysing their components helps in adapting them to other fields (Author, 2019)</p>	<p>Modular</p>	<p>Design Thinking model adapted to public managers</p>
<p>Attitudes are the most grounded elements of competencies, and they underpin skills and knowledge. In its turn, knowledge informs the development of skills (Author, 2019)</p>	<p>Adaptable</p>	<p>Framework for assessing and discussing knowledge, skills and attitudes in a team setting</p>

The learning environment

As illustrated in Table 1, the design inputs obtained from the participatory session informed the design of a learning environment that aimed at unlocking the democratic potential of design capabilities in public management. The gained insights contributed to the design of three design tools: a value-mapping tool, a Design Thinking model for public managers, and a framework for capacity-building based on knowledge, skills and attitudes. Altogether, these design tools are considered the key elements that form a respective learning environment, which is a space for collective capacity building, where capabilities are exploited as catalysts to promote the dissemination and implementation of Design-Enabled Innovation in public management.

The value map and card set

The value map and card set (see Figure 2) is a participatory tool for co-reflection. It supports in discussing and envisioning the values to design for in a team setting or to be achieved while developing new capabilities. It is composed of 30 value cards based on the Element of Value pyramid (Almquist, Senior & Bloch, 2016) and a value map to prioritise such values on three levels of importance: key values, primary values and secondary values. The tool allows for coming up with new values and for grouping and clustering them.

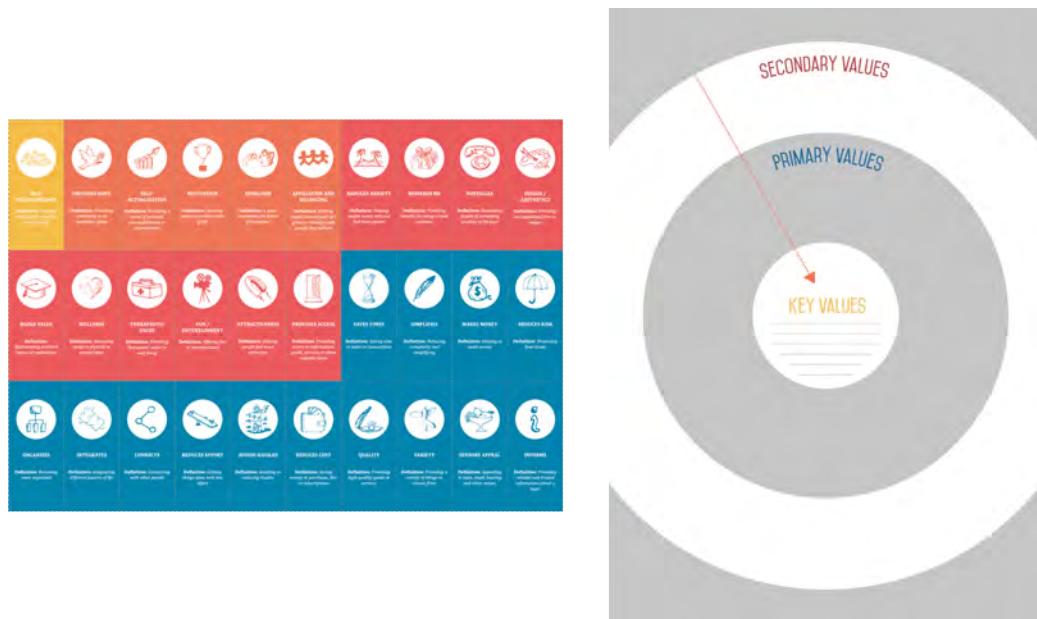


Figure 2 The value map and card set

The Kite Design Thinking model

The Kite Design Thinking model (see Figure 3) aims to inform the process of strengthening the back end of the public management approach. It is based on a brainstorm on the Double Diamond design template conducted during the second participatory session. During the discussion, the participants decomposed the classical process and reassembled it into a new one, by selecting the relevant steps they need and visualising them in a shape they relate to. The new model is divided into problem and solution space, and the centre represents the achievement of a shared vision within the team using it. The 'Dialogue' phase is the first step of the problem area, in which the value map and card set and the VISA Framework (see next subsection) should be used to generate visions based on values and to ignite the capacity-building process. Subsequently, the 'Problem Framing' phase is dedicated to thoroughly define the problem and plan a strategy to solve it. The 'Adapting' and 'Transforming & Validating' phases represent the solution space, where the solution is adapted to the targeted problem by iterating on it. At the same time, the solution can be validated, and insights are drawn.

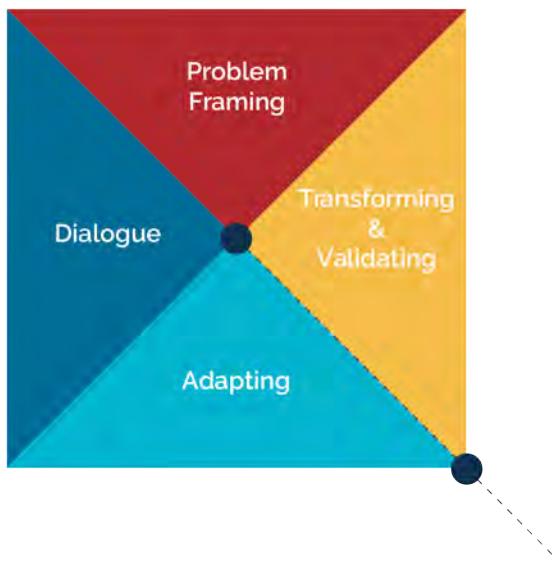


Figure 3 The Kite Design Thinking model

VISa compass

The VISa Compass (see Figure 4) is a co-reflection and capacity-building framework that leverages on attitudes to discuss and envision skills for public managers and the knowledge needed to master them. The central part of the framework describes the three principal practices of public management individuated during the third participatory session (Vision, Inclusion and Strategic Agility). The wheel shows nine essential attitudes to adopt, and the outer areas display the critical skills for public management.



Figure 4 The VISa Compass

Discussion

The current work started with the definition of requirements to profitably adapt design practice to the public management domain. To fuel Design-Enabled Innovation in the public management context, it seems to be necessary to disclose the core factors behind it. The term 'innovation' indicates, in this case, an iterative process which entails demystifying values and attitudes on the back end of the public management approach, and accordingly nurturing, developing and fine-tuning skills by enhancing collaborative work and knowledge sharing. The main goal of this study is to support teams of public managers in moving from a common approach to

policymaking to a more experimental and participative one. The focus is, therefore shifted from an individualistic perspective, which entails individuals learning new methods and tools, to a participatory one. The aim is to allow groups of public managers to learn together by sharing relevant experiences and knowledge while taking advantage of the approaches available to them. 'Supportive' and 'Modular' were chosen as drivers for the development of the learning environment to cope with the lack of structure and flexibility that participants recognised in their usual approach. Modularity is a characteristic of the final design which might enable public managers to have a wide range of actions supporting them in addressing the complex challenges they face daily. The Adaptable requirement takes here a central role, representing the characteristic which ensures flexibility in support and empowers public managers by making them relate to the learning environment and feel recognised by their team. The fulfilled design requirements can provide an answer to both the research questions formulated at the beginning of the project, representing at the same time essential factors underpinning the learning environment and enablers for the process of nurturing and sharing design capabilities. Moreover, the achieved fit of the final design to the requirements formulated at the beginning of the study meets the goal of unlocking the democratic potential of design capabilities in public management by exploiting the pedagogical potential of Design Thinking knowledge, skills and attitudes. The outcome of the current study demonstrates how integrated design research and development conducted with public managers can empower them to proactively and tangibly fuel a Design-Enabled Innovation and transition within their context. By starting a participatory and iterative process focused on creating and fine-tuning tools and frameworks, not only it is possible to diffuse design knowledge, but also to set up a flexible environment that can endure in time and be adapted to future challenges. The learning environment impacts the back end of the public management approach, enabling practitioners to address present challenges and envision strategies for future ones. Layered challenges notoriously impair the context in which the project was developed. The most prominent hypothesis at the beginning of the research was that practitioners in the public field mostly adopt top-down approaches and a managerial way of dealing with problems. However, since the first session, a diffuse attitude for participation and for empathising with each other was noticed. Moreover, they demonstrated a grounded awareness of the impact that design capacity-building can have on the domain. During the participatory sessions, the lack of a common vision on what Design Thinking (knowledge, skills and attitudes) is was strongly perceived. Nonetheless, the endeavour of co-creating a learning environment with the support of design tools and mindsets allowed for a methodological discussion. The learning environment has been designed to be scalable, and the fulfilled Design requirements demonstrate extreme flexibility of the proposed design. However, to validate this parameter, it might be necessary to conduct further iterations in different contexts and settings. The project has been set up and carried out in one country; therefore, it needs further validation in different geographical areas. The learning environment can be tested in its original form, but it should be modified according to different contextual settings. Fundamental elements that need adaptation are language and values, which have been recognised as crucial factors to enable rich interactions during the project development. The implementation process should be assisted by professional designers, in order not to lose an expert overview while training the trainers on the context, and to help with practical and theoretical knowledge during the infrastructuring process. In order to support and promote the replication of the study in different settings, a list of guidelines on how to apply the learning environment in practice has been drawn. The guidelines are based on the good practices recognised during the process and the learnings from the participants' experience.

Guidelines on how to implement the learning environment in practice

- **Share the process, share the outcome:** democratise tools, methodologies and results of every process by making them available and reusable.
- **Embrace complexity by means of simplicity:** do not be discouraged by open, complex, dynamic and networked challenges. Decompose complex issues one step at the time in order to create a framework of achievable goals.
- **Mediate personal motivations and values to enhance participation:** real engagement comes from motivation, and proactive participation is the result of a balance between individual incentives and team's ambitions.
- **Learn from participants and let them share their knowledge:** inspiring experiences have intrinsic and motivational power. Let public managers express their knowledge, to benefit the whole team.
- **Make the debate visible and tangible:** materialise abstract discussions employing artefacts, to take the debate to a relatable level and to generate contextual awareness.

- **Make tools adapt to participants and not vice versa:** shared ownership can be achieved by allowing public managers to add a personal touch on tools and methods so that they can feel responsible for the whole learning process.

Conclusion

The learning environment is, at its core, a space for co-reflection, collaborative learning and capacity building, which allows for expanding and strengthening the back end of the public management design process. The description of strategies to diffuse design within the public field and the reflections made while doing so are the main contributions of this project to the design knowledge. To this extent, integrated design research has been proven as a viable opportunity for capacity building in public management because it enabled materialising tools and methods in an operationalizable way. The deconstructive approach, applied to both the research phase and the design iterations, can be the object of further studies, to better connect research and practice while working on Participatory projects. The different components of the resulting design offer practitioners (both in the design and public management fields) a way to directly apply design knowledge in the public domain. The learning environment applied to kickstart and carry out a capacity-building process is an example of how designers can use their knowledge to foster societal innovation. It can be concluded that collective capacity can be nurtured by leveraging on the democratic potential of design capabilities. Hopefully, the work can contribute to stimulating designers to put their expertise in design capability development for the public domain.

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