



Models, Methodologies, Scenarios & Requirements

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Executive Summary

This document reports the results of the first twelve months of activity of Working Package 1. The overall objective of WP1 is to provide the conceptual framework that supports the entire EMPATIA project. In particular the information here reported have guided the development of the preliminary prototypes of the EMPATIA pilots in Czech Republic, Germany and Portugal. Stimulated by the pilots the original conceptual framework has evolved with respect to its preliminary version described in the draft version of this document delivered last summer.

Starting from suggestions emerged in the field WP1 has also begin exploring a number of new lines of research on informed consent, gamification, e-deliberation, and crowdsourcing that will be piloted in ancillary projects in conjunction with some of the new pilots (Milan), members of our research board (Participedia) and institutional networks (IODP). The research on gamification has evolved in an entire gamified multi user experience platform that has already being deployed more than 8 times with academic experts, bureaucrats, practitioners, and citizens to explore the advantages and disadvantages of ITC solution for participatory budgeting. The research on e-deliberation has recently received an additional small grant from the Templeton Foundation in the US to develop a spin-off project focused on improving online discussions. Lastly IODP, a network of more than 2000 cities, is partnering with EMPATIA to map the use of ITC solutions for participatory governance pushing EMPATIA to develop an advanced research suite.

The deliverable is composed by seven chapters and is organized in two main parts.

The first part (Chapters 2-3) focuses on the analysis of the state of the art of the scientific research on Democratic Innovations and on the transformations introduced by the widespread adoption of platforms and other ICTs in their delivery and on the definition of a preliminary analytical framework to study multi-channel Democratic Innovations. It adds a specific chapter on case selection that focuses on why the EMPATIA platform has selected pilot sites in cities that implemented or desired to implement participatory budgeting.

The second part (Chapters 4-6) defines non-functional and functional requirements for the EMPATIA platform prototype starting from the development and analysis of possible use case scenarios. It begins by offering an overview of the multi-method approach we employed to gather such requirements. It then describes the early conceptualizations generated before initiating each pilot and then moves to the current state of each pilot. Participatory budgeting processes are profoundly embedded in the socio economic context (see D1.3 for a detailed analysis) thus the dialogue

between theory and practice is in constant evolution and strongly depends on political factors that are outside the consortium control. Section 3.6 details the evolution of our pilots, describing the change from Bonn to Wuppertal and the opening opportunity in Milan that has been added as a new official pilot.

In addition, the introduction provides a description of the objectives, scope and main results of the deliverable and a detailed analysis of its relation with other Tasks and Working Packages of EMPATIA, while the conclusion offers an overall assessment of the state of the conceptual framework developed by the EMPATIA projects.

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Acronyms

Acronyms	Description
UCS	Use Case Scenario
CA	Citizen Assembly
CRM	Citizens' Relation Management Platforms
D n.n	Deliverable (referred to EMPATIA's proposal)
DI	Democratic Innovation
ICT	Information and Communications Technology
PB	Participatory Budgeting
SM	Social Movements
T n.n	Task (referred to EMPATIA's proposal)
WP n	Working Package (referred to EMPATIA's proposal)



1. Introduction

The introduction to the report of the deliverable D1.1 describes briefly its objectives, the role of the deliverable in relation with the other tasks and working package of EMPATIA, and finally the structure of the document, providing a brief abstract for each chapter.

1.1. Motivation, Objectives and Scope of the Deliverable

This deliverable provides a report of the activity of the EMPATIA's Task 1.1 during the first year of the project: 'Theories, models and cases studies for Participatory Budgeting' and Task 1.2 'Reference scenarios and requirements', whose objective is the study and analyse the State of the Art of the use of collaborative platforms in the design and management of PB in Europe, in order to define a logical framework for research and analysis of multi-channel PB. The main goal of this deliverable regards then the development of an initial body of knowledge regarding multi-channel Democratic Innovations (DI) and in particular Participatory Budgeting (PB) that should be able to steer the future advancement of the project on three main dimensions:

- The delivery of scientific research activity regarding theories and cases of multi-channel DI, focusing in particular on the challenges and opportunities introduced by the integration of Information and Communications Technology (ICT) in their design and management;
- The development and dissemination of a collaborative platform and other ICT tools able to support the design and management of DI;
- The implementation of pilots during the lifetime of the project where the theories and tools developed are tested in real-life setting.

This deliverable moves from the content included in EMPATIA proposal and covers the debates and the discussions carried out during the kick off meeting (January 2016), the workshop organized in Milan (April 2016), the workshop organized in London (May 2016) and the second partner meeting organized in Prague (September 2016). The partners of the EMPATIA's consortium have been actively engaged in providing inputs and feedbacks to the various element that compose the document during weekly Skype meetings that have begun after the September meeting in Prague, and have particularly focused on pilot support. For this reason the material covered in this deliverable is the result of a multi-disciplinary work based on the collaboration between various sources of knowledge.

The first iteration of this document was the first deliverable of the whole EMPATIA project, concluded at month 4 from the official start of the project. As it is inferable, that deliverable had a pivotal role in the launch of EMPATIA. Indeed it is supposed: to develop and evolve theoretical and technical intuitions already in the original proposal into more articulated reflections, to provide a set of guidelines to activate the work of other Working Packages (WP) and Tasks (T), and finally to provide a reference point - in terms of form and content - for the deliverable to come in the progress of EMPATIA. In detail, the main objectives of this deliverable can be described as follows:

- a) Define a preliminary analytical framework to study multi-channel DI and PB in particular, starting from the analysis of the state of the art of the scientific research on DI and on the transformations introduced by the widespread adoption of platforms and other ICTs in their delivery;
- b) Define non-functional and functional requirements for the EMPATIA platform prototype, in a permanent exchange of inputs and feedback between WP1 and WP2 regarding: how the platform should work in order to accomplish the transversal objectives of the project (non-functional), and what actually are in detail the functions that we need to develop and integrate (functional);

Activate other Tasks and WP that will be feed and guided by the information contained in this deliverable.

1.2. Motivation Relation within the Project

As it is declared in the original EMPATIA's proposal to the EU commission, this first deliverable 'provides an early report on the outcomes of Tasks T1.1 and T1.2, in order to support the work on T2.1, WP3 and other activities feeding on the results of WP1'. Translating from technical language, this sentence remember the pivotal role of Tasks 1.1 and 1.2 in activating and steering the activities of the Task 2.1: Platform architecture and specification, and in providing guidelines to the WP3 focused on Pilots design and implementation.

Figure 1 shows in detail the relation between this deliverable and those foreseen as an outcome of the Tasks of WP2 and WP3.

The dialogue between T1.1 and T2.1 has continued all along the project and will be at the base of the future versions of this deliverable foreseen at Month 18 (Final version).

The relation with WP3 and the design and management of the pilot is less structured. WP1 and WP3 are supposed to feed each other mutually: on one hand guidelines provided here and in future versions of this deliverable will support the delivery of pilots, on the other the same study of the pilots (as well as other external case studies) will be a fundamental source for the future activity of T1.1. Anyway, the theoretical model of application of EMPATIA designed here (and in the future versions) will not be binding for the actual pilots, whose design and implementation will be delivered in autonomy according to the specific needs of the territory involved.

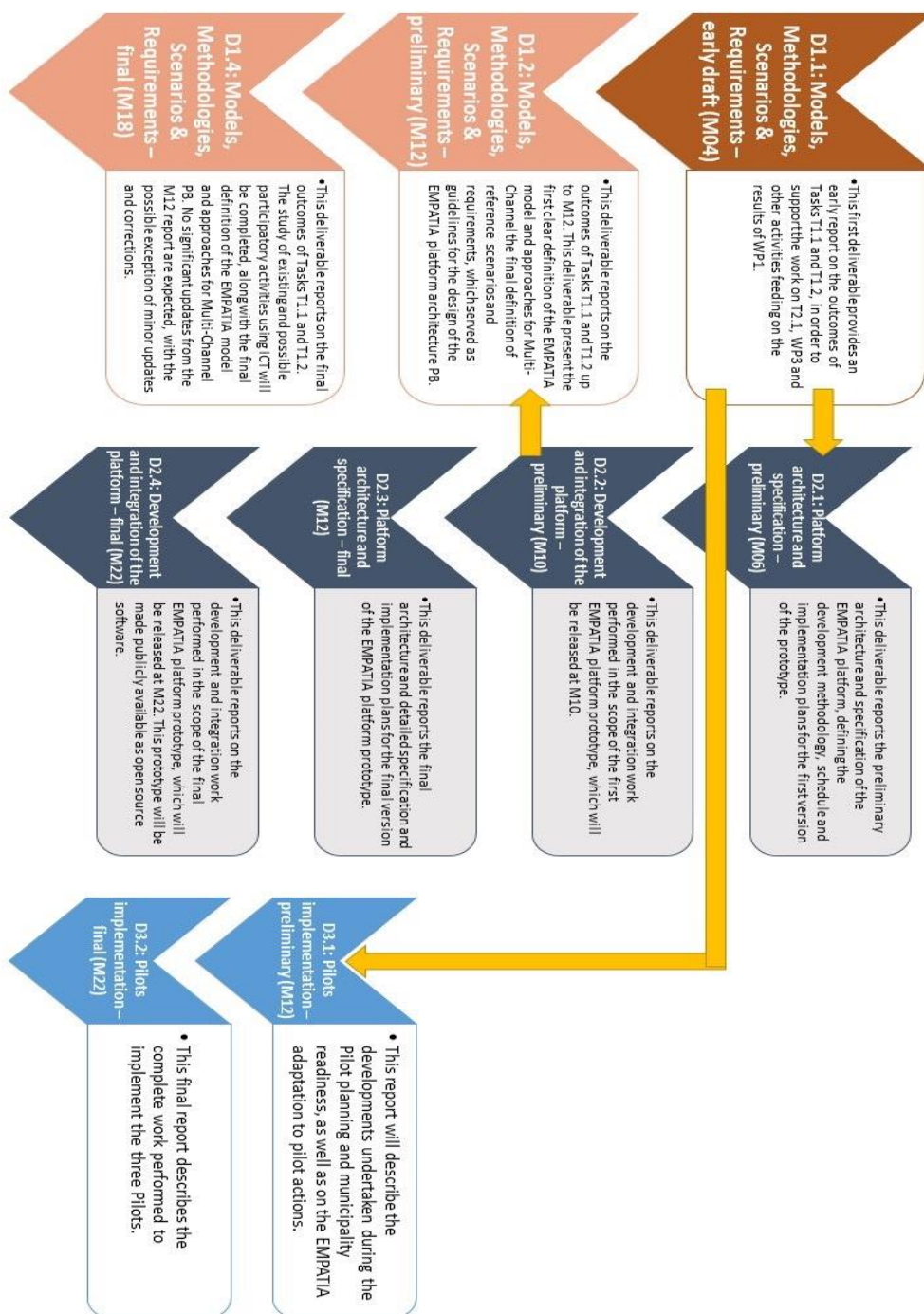
1.3. Structure of the rest of the document

The rest of the document is structured in six additional chapters. The title of the document Models, Methodologies, Scenarios & Requirements reflects adequately its structured content. It is also possible to conceive the deliverable as composed by two main blocks: the first block (chapters 2 and 3) is mainly focused on the development of the theoretical framework to research multi-channel democratic innovations, the second one, (chapters 5 and 6) is more pragmatically oriented to the description of use scenarios and requirements for the EMPATIA platform. In between, chapter 4 reports on the methodology used to align theory to practice in the two components of the deliverable. Chapter 7 offer preliminary conclusion that reflect on the first year of the project.

- **Definition: Chapter 2** focuses on the definition of Multi-channel Democratic Innovations. The first part of the chapter concentrates on the definition of key concepts of *channels*, *multi-channel democratic innovations*, *phases*, *actions*, *process* and *platform*. As the channel is here defined as a strategy aimed to reach a targeted public, the second part of the chapter focuses exactly on the publics of multi-channel participation, analysing two recurrent issues: the tensions between individuals and organizations of the civil society in DIs, and the convergences and divergences between the action of organized Social Movements and DIs.
- **Methodology: Chapter 3** describes the methodology used to develop this deliverable, focusing on the complex alignment required between different mechanisms of knowledge production, pertaining to the domains of social research, computer science and ‘street’ science (situated and contextualized knowledge). The chapter provides some methodological hypothesis and describes the rationale behind case-oriented requirement gatherings.

- **Case selection: Chapter 4** explains why we focused the initial EMPATIA deployment on implementing multichannel innovations that included participatory budgeting processes and introduces the four case sites. After a detailed description of what participatory budgeting is and its uniqueness in the panorama of democratic innovations, the chapter overviews each of the case briefly and concludes by highlighting how each of the case offers a paradigmatic example of potential implementation of EMPATIA.
- **Scenarios: Chapter 5** describes possible use scenarios for EMPATIA platform, starting from case studies based on the pilots in Germany, Portugal and Czech Republic. After a detailed description of non-functional requirements for each scenario, a transversal analysis is applied, in order to highlight common patterns and priorities.
- **Requirements: Chapter 6** includes an early description of functional requirements for EMPATIA platform at the highest level of detail currently attainable. Moving from the analysis of Use Case Scenarios (UCS) presented in the previous chapter, to ‘isolate’ the asynchronous actions that compose the various phases of PB cases researched. For each action identified, in the second sub-chapter we propose a preliminary list of the possible tools necessary for the delivery of actions. For each tool a list of requirements has been developed.
- **Conclusions: Chapter 7** provides a description of the objectives, scope and main results of the deliverable and presents an overview of the future directions of EMPATIA.

Figure 1 - Relation between Deliverables



2. Key Concepts

The chapter will provide a preliminary definition of the key concept of ‘Multichannel participation’. The first sub-chapter introduces some key concepts that will be at the base of the EMPATIA consortium work: what do we mean exactly by keywords as ‘Democratic Innovation’, ‘Multi-channel participation’. The first sub-chapter (2.1) focuses in particular on the definition of participatory ‘channel’ and its peculiarity in comparison with other vocabulary already in use in the domains of participatory democracy and civic technology studies. A particular attention is devoted to advantages and disadvantages of introducing multiple channels of engagement, and to different model of integrating such channels (2.1.4). The rest of the chapter explores the tensions between different publics in democratic innovations (2.2), and concludes by introducing a preliminary overview of gamification in democratic innovations (2.3).

2.1. Defining Multichannel Democratic Innovations

‘Democratic Innovations’ — institutions specifically designed to increase and deepen citizen participation in the political decision-making process (Smith, 2009) — have become a ubiquitous feature of policymaking and governance building. For example, Participedia¹, a dissemination partner of EMPATIA, describes the fast diffusion of democratic innovations as ‘a transformation of democracy — one possibly as revolutionary as the development of the representative, party-based form of democracy that evolved out of the universal franchise’.

For the purposes of this deliverable (and of the whole EMPATIA project) it is useful to distinguish here between two main groups of Democratic Innovations: those taking place in invited spaces, participatory spaces designed by a government/organization to involve citizens from those taking place in ‘invented spaces’, participatory spaces claimed by social movements (Miraftab, 2004, De Cindio, 2012; De Cindio & Schuler 2012). The role of the official institution involved in a democratic experiment has decisive implication on the configuration of channels used to engage citizens and participants. In this sub-chapter we describe integration mechanisms aimed to improve the efficiency and internal legitimacy of multichannel democratic innovations, taking place in ‘invited’ spaces. These mechanisms encourage those social behaviours that the innovation architects (and in some cases also the most engaged users, when the rules are up for discussion) have identified as ideal. However, other participatory mechanisms and practices naturally emerge to strengthen the sense of

¹ Participedia is a global network of scholars that maps democratic innovations using innovative crowdsourcing methods (<http://participedia.net>).

community across channels (De Cindio, Gentile, Grew, & Redolfi 2003) or to promote overall playfulness (Sicart, 2014). The design choices allow the participants to redefine the meaning of their actions within the process in new ways (Gordon & Walter 2016) beyond the goals of the project. Some argue that the creation of a long lasting community of engaged citizens is the most concrete and long-lasting impact of some of these democratic innovations (De Cindio & Stortone 2014). Successful democratic innovations offer an array of examples of these ‘meaningful inefficiencies’. These elements bring back the energy of ‘invented spaces’ within ‘invited spaces’ and transform grey institutions in lively spaces. A catalogue of these re-inventions of democratic innovations is beyond the page limitations of this sub-chapter. While this sub-chapter will frame multichannel participation within ‘invited’ spaces, we will deepen the complex relation with invented spaces in the following sub-chapters.

Some democratic innovations are very simple and involve a single public in a set of tasks — a single channel of engagement. Town hall meetings (Bryan, 2003), Mini Publics (Smith & Ryan 2014), issue-reporting digital platforms (Sjoberg, Mellon, & Peixoto 2015), and participatory monitoring processes (Bjorkman & Svensson 2007) are just a few examples of single channel democratic innovations. Other democratic innovations are more complex and can be better understood as a system that integrates multiple channels of engagement, i.e. multiple online and/or offline spaces designed to promote the participation of a specific segment of the population. The most complex of these systems integrate more than one stand-alone democratic innovation (Spada, Mellon, Peixoto, & Sjoberg, 2016).

While the existing literature has investigated both theoretically (Mansbridge et al., 2012) and empirically (Dias, 2002; Goldfrank, 2006; Wampler, 2007) the interactions between democratic innovations and other existing institutions (macro-level interactions), very little is known about the interactions of channels of engagement within a democratic innovation. How can we optimize the integration of multiple channels of engagement? What are the opportunities and challenges of these complex systems? The few existing case studies on multi-channel innovations highlight exclusively the potential benefits of these institutional designs (Best, Ribeiro, Matheus, & Vaz, 2010; Peruzzotti, Magnelli, & Peixoto 2011). The experimental literature has focused insofar on exploring the effect of different organizational features of a democratic innovation, what we can see as the ‘Lego blocks’ of a democratic innovation architecture. No experiment to date has investigated different sequences and integration mechanisms of such Lego blocks. In sum, the current literature offers many insights about the macro-level interactions (Democratic Innovations / Other Democratic Institutions), and the effect of micro-design choices (Design of Democratic Innovations), but very few insights about the meso-level interactions.

This sub-chapter presents an overview of the advantages and disadvantages of integrating multiple channels of engagement. In order to do so we begin by offering a definition of channel of engagement and multichannel democratic innovations systematizing grey concepts developed by practitioners in recent years. In doing so we expand concepts developed by the literature in marketing (Stone, Hobbs, & Khaleeli, 2002) to include themes and normative concepts developed within democratic innovation literature.

The starting point is then the consolidation of a vocabulary of Democratic Innovations, a language that can describe the phenomena we are interested in. Thus, in the next sub-chapter we begin by introducing a series of definitions, starting with the concept of channel of engagement and multichannel democratic innovations. These concepts do not aspire to become a standard. We think of them as a disposable tool useful to jumpstart the discussion and reduce the level of confusion that currently characterize the debate. The sub-chapter also introduces the ‘action’, the smallest building block, and then discusses phases and cycles that are synchronous clusters of actions frequently used to describe the inner workings of PBs and other DIs by academics and practitioners.

2.1.1. The Lego Blocks of Multichannel Democratic Innovations

Preliminary conceptualization of multichannel customer relation emerged at the end of the nineties (Holmsen, Palter, Simon, & Weberg, 1998; Stone, Hobbs, & Khaleeli, 2002). More or less at the same time academics showed the potential of experiments to optimize messages and select the best approach to promote voting in elections (Green, & Gerber 2000). The main result of the ‘getting out to vote’ literature was, and still is, that authentic dialogue is the most important element that motivate people to vote or participate in a campaign. Building upon such concepts the Obama campaigns of 2008 and 2012 (Hendrick & Denton, 2010; Kreiss, 2012; Stromer-Galley, 2013; Bimber 2014) showed the potential of multichannel engagement across a variety of media. Since then, these practices have spread to electoral and charity campaigns worldwide and have entered popular internet culture generating a large grey literature composed by practitioners report and ‘how to do’ books (Isseberg, 2012; Kapin & Ward 2013). We aim to adapt this body of ideas to the field of democratic innovations introducing themes and normative goals that are missing in the marketing and GOTV literature.

In marketing, a channel is a set of interdependent organizations and practices that allow and promote the sales of goods or services (Armstrong, Kotler, Harker, & Brennan 2012). Multichannel marketing integrates such organizational practices across multiple channels, including advertising and customer relation. Multichannel advertising and customer relation has the objective of creating

more or less authentic dialogic interactions with the public. Micro-targeting in advertising is now the norm. Amazon, Google and Facebook track users' available information to maximize the probability of inducing a purchase by customizing the products shown in their platforms. These firms employ a combination of randomized controlled trials, large observational data analysis and qualitative studies of customers' opinions to optimize different messages and platform interfaces. Different version of the website are shown to users in different locations, and across a variety of platforms. Engagement in customer relation is also becoming more frequent. Firms rely more and more on community forums, Facebook and twitter, to engage customers in complex discussions about past, current and future products.

Multichannel engagement goes one-step further, and micro-targets entire participatory processes in which a segment of the public can collaborate with the organization to achieve a goal. Some of these processes are two-way vertical relations between participants and the organizers; some other are multi-way interactions in which participants collaborate both horizontally among themselves and vertically with the organization to generate an output of interest. The videogame industry is a pioneer of these engagement practices. For example, these firms often allow the most active participants in their community to shape small features of the games in development. In some engagement processes, participants can even affect elements of the rules that govern the architecture and agenda of the process itself.

Multi-channel Democratic Innovations

Using the previous examples, we can define a channel of engagement as a combination of tools, messages and participatory processes designed to encourage a specific behaviour in a target public. The previous very broad definition is purely procedural and applies to a variety of purposes such as: selling goods and services, campaigning, petitioning, gathering volunteers, crowdsourcing information, ideas, and money. In what follows we focus on the subset of multichannel engagement processes designed to deepen democracy — multichannel democratic innovations. Adapting Smith (Smith, 2009) we define multichannel democratic innovations as institutions that integrate messages and participatory spaces targeted to different segments of the population in a system specifically designed to increase and deepen citizen participation in the political decision making process.

Multi-channel is not (just) Hybrid.

The most common multichannel democratic innovations are hybrid consultations processes integrating online and offline venues of discussion targeted to different type of participants (Bittle, Haller, & Kadlek, 2009; Andersson, Burall, & Fennel, 2010; Gupta, Gouvier, & Gordon, 2012). Our

definition does not reduce multichannel democratic innovations to hybrid innovations that combine online and offline media. On one hand, face-to-face innovations can be multichannel. For example, the 2004 British Columbia Citizens' Assembly integrated meetings that were open only to a randomly selected group of participants drawn to represent the entire state, with fifty public meetings in different geographical areas (Warren & Pearce, 2008). On the other hand, hybrid democratic innovations can be single channel and hybridization does not automatically create a new channel. For example, the District Eight PB process in NYC employs digital technologies to map the implementation of the winning projects, but such hybridization is just a data visualization tool that supports the participants' monitoring activity and does not create a separate channel of engagement.

Channels and Actions

Our definition offers also the tool to distinguish between channels and actions – actions that a user can perform within a participatory process. Some typical actions in face-to-face participatory processes include listening, talking, reading, mobilizing, ranking, voting and monitoring. Similarly, typical actions in collaborative platforms are for example generating, editing, versioning, commenting, mobilizing and ranking ideas. It is common knowledge that users tend to intervene and contribute differently to participatory processes (Preece & Shneiderman, 2009; Wenger et al, 2002; Edwards, 2006; Bertone et al, 2015). For example, the folk law of internet participation (Nielsen, 2006) states that 1% of users will contribute content to a wiki, 9% will edit and refine it, while 90% will 'lurk'. According to our definition, such users/actions clusters are not separate channels of engagement, unless the platform includes a dedicated participatory process targeted to them. For example, multichannel collaboration platforms integrate a channel for the general users and a channel with more privileges restricted to the more active users. This is the same strategy that face-to-face participatory processes use when restricting certain actions to representatives selected by the participants (Abers, 2000) or by sortition (Warren & Pearce, 2008).

Channels and Phases

The new definition also allows us to distinguish between democratic innovations phases and channels. We use the term phase in its general meaning; a democratic innovation phase is a set of specific actions aimed at achieving a specific goal in a specific amount of time. Each Democratic Innovation is organized in a sequence of phases composed by actions, not necessarily corresponding with a single and specific channel of engagement. For example, most deliberative mini-publics involve first a learning phase, then a consultation phase and then a deliberation phase (Fishkin &

Luskin, 2005). These three phases are significantly different in design, and allow participants to perform different set of actions, but do not target different publics; hence, they are not different channels of engagement. All participants in a deliberative mini-public go through each of the three phases. Lastly, a cycle is a set of phases that repeats itself. For example, PB processes employ a yearly cycle that combines phases that last various months. PBs usually integrate four macro-phases: an initial ideation phase, in which participants propose potential public projects; a filtering phase, where projects are developed at the level of definition necessary to make a decision through active involvement of the technical body of the entity engaged in PB; a project selection phase, in which participants affect the selection of projects that will enter the budget; a monitoring phase, in which participants gather information on the implementation of projects (Wampler, 2015; Baiocchi, 2005; Avritzer & Navarro, 2002; Abers, 2000; Fedozzi, 2000). However, in most PBs these phases are designed for the same public and thus they do not constitute separate channels of engagement. Large cities PBs are a multichannel democratic innovation according to our definition, not because they combine multiple phases, but because they integrate multiple district level participatory processes with specific rules, different amount of resources and separate engagement campaigns. For example, the PB in Porto Alegre integrates 17 slightly different district PB processes, while the PB in New York City started integrating four districts processes in 2011, and now integrates 28.

Phases and Actions

Moving back from the macro to the micro, it is important to highlight how the same action can be repeated within the same phase and also in a subsequent phase. Meaning that the Lego blocks of democratic innovations are limited, but the possibilities to organize them in complex systems is almost endless. For example, in PB the phase of ideation implies actions of collaborative writing and voting in order to have a preliminary ranking of proposals before passing to the filtering phase. The filtering phase correspond to a subset of actions of collaborative writing focused on the advanced development of proposals. Finally, the selection phase entails some sort of voting to prioritize the projects in a final list that will be funded by the municipality. As it is possible to infer, collaborative writings and voting actions take place in different moments of the same phase and are repeated in more than one phase. While from a purely technical point of view these actions are identical, the meaning and function of the same action is transformed, every time, by the different context of implementation. Or as another example, Citizens' Assemblies use frequently cycles of actions: small group discussions and plenaries are often repeated multiple times during each of three phases of the assembly (learning, consulting, deliberating) to transmit the information across groups. These small

groups in most cases do not target different segments of the participants (e.g. youth vs adults), and thus, according to our definition are not separate channels of engagement.

However, in consultations that allow the participants to self-select in different small group discussions, focusing on different topics chosen by the participants themselves, the groups become channels of engagement. The 2015 Citizens’ Assembly on devolution in Southampton (UK) offers a recent example of an open space conference within a democratic innovation. In the second weekend of the assembly, the organizers introduced an open space conference that enabled the participants to discuss topics of their own choice. The participants divided themselves in five invented subgroups that are five different channels of engagement. This phase of the citizens’ assembly was designed by the organizers to re-introduce the freedom of ‘invented spaces’ and to allow the participants to step out the choice architecture that had been carefully setup for them (Flinders et al. 2016).

Most of the concept we have introduced can be scaled-up or down. For example, a phase can have multiple channels, and a channel can have multiple phases. In what follows, we focus the analysis on channels.

In sum what distinguish two channels of engagement is not the medium (face-to-face vs. SMS vs. web), nor the phase (learning vs. deliberation) or the action (discussing vs. writing vs. voting), or the fact that citizens can participate in different ways (lurking vs. creating), but the fact that each channel is designed for a specific segment of the population. A channel can be as simple as an additional face-to-face meeting targeted to a specific minority within a phase, and as complex as an entire democratic innovation.

2.1.2. The Advantages of Integrating Multiple Channels of Engagement in Democratic Innovations

A growing consensus is emerging among practitioners that the more channels of engagement a democratic innovation has, the better. Many consider the integration of multiple channels of engagement a method to *diversify* the risk that one single channel could be ineffective, and a way to *differentiate* channels of engagement to better accommodate the interests and goals of different types of people (Martins, 2015; Andersson, Burall, & Fennel, 2010; Sampaio, Maia, & Marques, 2010; Bittle, Haller, & Kadlec, 2009).

Diversification

Going back to its origins, the concept of product diversification in management describes the strategy of entering completely different businesses that suffer different cycles and different shocks

so that the average profit of the combination of channels is less volatile. In the realm of democratic innovations, diversification refers to the integration of completely different channels of engagement with different objectives, different procedures and different publics. For example, cities are developing integrated platforms for citizens' relation management (CRMs) that combine long-term face-to-face consultation processes,² issue-reporting software, open data initiatives, engagement initiatives for youth, social marketing initiatives for sustainability, people panels for recurrent surveying³ and classic e-government services, to name a few. Some of these channels are standalone democratic innovations and a completely different 'product' with different goals and objectives targeting a different segment of the population. The main practical advantage of diversification is the massive number of participants it can attract. For example, the *Gabinete Digital* in the state of Rio Grande do Sul in Brazil, active between 2011 and 2014, engaged more than one million people every year (Spada et al, 2016). Another advantage that is often discussed by practitioners, particularly those in democratic innovations that support protest movements or campaign to change behaviour (e.g. reduce corruption), is the possibility that one of the channels of engagement might fail. This concept is directly inspired by the idea of redundancy in engineering and the idea of product diversification in finance. To our knowledge, there are no studies documenting the increased resilience of multichannel innovations, and the supposed benefit is currently mostly theoretical. As we will see in the next sub-chapter, there are instead very concrete examples of multichannel innovations that experienced a legitimacy crisis due to the failure of one channel or conflicts between two channels. Therefore while the idea of risk diversification is theoretically appealing it probably applies only to a subset of democratic innovations and under a specific set of local conditions.

Differentiation

The concept of differentiation, instead, originates in marketing and refers to the construction of a brand and specific messages aimed at distinguishing a product or service from the competitors. In the realm of engagement differentiation is mostly done by micro-targeting messages and spaces of participation. The Obama campaign was the first to show how to operationalize successfully the process to increase the number, diversity and satisfaction of participants in a campaign (Kreiss, 2012). E-petition platforms such as Avaaz and Change.org, that routinely micro-target the possibility of participating in specific campaigns, have globalized multichannel engagement campaigns. One of

² In Brazil many cities implement, every 5 years, a participatory process called Plano Pluriannual Participativo (Multi-year Participatory Plan) to design the zoning plan and the guidelines for city public project. Similar participatory planning processes are adopted by neighborhoods and cities around the world.

³ People panels are a common practice of UK cities. The Southampton people panel is a typical example: <https://www.southampton.gov.uk/council-democracy/have-your-say/peoples-panel.aspx>

the main advantages of differentiation for democratic innovation is to better engage some difficult to reach segment of the population. For example the New York participatory budgeting organizes multiple districts meetings that target linguistic and religious minorities, offering a modified set of rules and services tailored to such groups. PB also offers a specific channel for formerly incarcerated people that have no right to vote in the US. This is a differentiation strategy because the overall objective of these different meetings is the same, coming-up with projects for the PB process during the brainstorming phase, but each meeting differs from the other for its location, the language used, and sometimes the rules of discussion employed.

Efficiency

Beyond the benefits in terms of efficacy, broader and more diverse participation, multichannel democratic innovations can gain in efficiency due to the sharing of resources and information across channels. For example, the city of Canoas, in Southern Brazil, has recently introduced a ‘Municipal Systems of Participation’, a CRM that integrates different channels of social dialogue to improve transparency, accountability and efficiency. The system combines 13 on-line as well as off-line participatory tools targeted to different segments of the population. Participatory Budgeting, Urban Participatory Planning, the Forum of Services (in which citizens oversight the functioning of several city services), and ‘the Mayor in the Station’ (an outreach space of social dialogue which consists – once a week – in the presence of the Mayor in the train station to dialogue with commuters) are some of the most prominent participatory spaces. Some of these channels are conceived to promote horizontal interactions among participants (e.g., PB), while others are designed just to improve the communication between the city officials and citizens (Martins, 2015). The key innovation introduced by Canoas consists of a complex system of public proceedings of all these different channels that allows the city, interested citizens and civil society organizations to keep track of issues raised by individuals and groups in each of these different channels.

Democratic Benefits

And there are also benefits for the participants, such as increased choice in the way they can interact with the participatory innovation, and the ability to switch between channels, or participate in multiple channels at the same time. The literature on democratic innovations has yet to analyse in detail these benefits, but the original literature in marketing discusses them at length (Holmsen, Palter, Simon, & Weberg 1998; Stone, Hobbs & Khaleeli 2002). Some benefits however, are unique to the democratic realm and have no clear roots in the engineering or marketing literature. For example the multiplication of channels of engagement can be used to separate powers and to create

effective and legitimate oversight mechanisms. Part of the role of mini-publics in citizens' assemblies, for example, is to function as an oversight mechanism designed to prevent interest groups to hijack the participatory decision-making process. For example, multi-year projects could add the provision of including a mini-public at certain periodic intervals as oversight mechanisms, or could include dormant oversight channels that can be activated by the citizens or the organizers in case of necessity.

2.1.3. Challenges of Integrating Multiple Channels of Engagement in Democratic Innovations

While reviewing existing case studies we found also many interesting examples in which the introduction of additional channels of engagement within a democratic innovation backfired. The following are the five main issues we have identified.

Direct negative interactions among channels

First, quite obviously, channels of engagement might interact negatively. Introducing a new channel might divert users' attention and interests in unexpected ways. For instance, if one channel is particularly successful in attracting participants, other channels might suffer due to a loss of participants. Similarly, if a channel is particularly unsuccessful, other channels might suffer because they are still part of the same system that now has a non-working component. This feature of democratic innovations is particularly important when considering the fact that such innovations are often introduced in the midst of fierce opposition, and that opponents, to delegitimize the entire process, will certainly exploit its weaknesses.

Increased chances for free riding

Second, when multiple channels are available, participants might chose the one that generates the most rewards for the least cost. This form of soft *free-riding* tends to affect significantly the legitimacy of a democratic innovation, and often limits capacity building, concentrating the efforts of individuals into an array of behaviours aimed at reaching maximum added-value for themselves, rather than feeding the consolidation of the collaborative space. The more channels are active, the more a participant can select the one that generates the most returns for the least effort. The latter was a particular problem in some experiments of face-to-face participatory budgeting that

introduced the possibility of voting online. In some cases, participants perceived the new online voting channel as a mechanism that allowed ‘slacktivists’ to affect the PB outcomes.⁴

Redundancy and increased complexity of the integration mechanism that leads to reduced legitimacy, transparency and accountability

Third, the more channels exist, the more complex the integration mechanism becomes. Complexity not only generates costs in terms of management, but also increases the difficulty to explain and justify to participants the design of the participatory process. This could potentially reduce the overall transparency and accountability of the democratic innovation and potentially its legitimacy. Complexity often also reduces the ability of participants to truly own the process and affect its agenda. A typical example of this problem concerns the multiplication of brainstorming channels aimed to collect participants’ proposals and how such multiplication increases the complexity of the decision-making process. What has happened in Lisbon’s PB since 2009 is an example of this risk: to face the almost 1,000 proposals of investments generated by citizens every year in face-to-face and online meetings, the municipality had to organize an Interdisciplinary Working Group of Civil Servants to merge and pre-select the proposals. The pared down list of 200 projects sparked numerous complaints by citizens who saw their ideas disappearing or being distorted (Sintomer & Allegretti, 2016). Citizens’ Assemblies offer a very interesting example of such problem. The history of Citizens’ Assemblies shows how difficult it is to integrate the deliberative channel open only to a random sample of the population, with the public referendum. Historically the majority of CA referendums have failed to ratify the recommendations proposed by the citizens’ assemblies because the public did not paid much attention to the activity of the mini-public (Fournier et al., 2011). These examples show an evident risk: on one hand, the proliferation of micro-targeted engagement channels can create expectations that cannot be met, on the other hand the proliferation divides the public and might reduce its ability to make the entire platform accountable. While there are no studies yet that link explicitly the presence of multiple channels of engagement with the challenge of managing expectations and the issues of co-optation, contestation and bargaining power, the PB literature offers many examples of multichannel innovations suffering such problems (Wampler, 2006; Sintomer & Allegretti, 2015).

Increased probability that an oligarchy of super-participants emerges

⁴ Wikipedia defines Slacktivism as a portmanteau of the words slacker and activism. The word is usually considered a pejorative term that describes "feel-good" measures, in support of an issue or social cause, that have little physical or practical effect, other than to make the person doing it feel satisfied that they have contributed.

Forth, complex democratic innovations that combine different channels of engagement with different privileges potentially facilitate the emergence of an oligarchy of super participants. The case of Porto Alegre (Fedozzi, 2007; Langelier, 2011, 2015) is exemplary in this regard. Over time the members of the elected citywide assembly of district representatives (*Conselho do Orçamento Participativo*, or COP) that has the most control over the PB process have become an oligarchy with very little turnover. The COP is a channel that requires significant more effort than any other channel in the PB systems. The meetings are more frequent and the discussions are more complex. At the same time, the COP has the most influence over the final allocation of projects. The combination of channels that requires more effort to be accessed and provides more privileges, also increases the probability that a selected group of people that has the time and the interest monopolize such channels.

Increased risk of misuse

A fifth and final challenge resides in the risk of overdesigning the democratic innovation. If the organizers impose a new channel of engagement, participants might end-up feeling like cattle, instead of the owners of the process. The introduction of thematic assemblies in some PBs provides the typical example of a miss-designed channel. Returning to the case of Porto Alegre, during the mid-90s, the city government introduced a new set of citywide assemblies in an attempt to overcome the fact that projects proposed in district assemblies were limited in scope and mostly concentrated on filling basic infrastructural deficits in informal neighbourhoods. These assemblies, called thematic assemblies, attempted to tackle citywide problems, such as transportation, education, employment or environmental pollution. But people rarely used the thematic assemblies as intended; instead they used them to re-propose projects that had not been selected in the district assemblies.

2.1.4. Models of Integration

After having introduced the concept of channel of engagement and having discussed the benefits and drawbacks of integrating multiple channel of engagement within a democratic innovation, we now move to describe the most common integration mechanisms we have encountered in our review of Democratic Innovation cases. When we look at how Participatory Budgeting(s) and other DIs have managed multichannel integration to leverage benefits and minimize disadvantages, we find three main model of integration: competition, regulation and isolation.

Managed Competition

One integration strategy is to allow the channels to compete for resources. In Porto Alegre, the district level assemblies directly compete for the engagement of participants. Citizens are asked to rank the policy priorities for their district and to present projects. The overall ranking of policy priorities, combined with the number of people that participates affects the allocation of resources to each neighbourhood (Abers, 2000; Baiocchi, 2005). The risk of this approach is that the competition moves from agonistic (Mouffe, 1999) to disruptive, despite the majority of researchers that have described PB underline that the process fosters a friendly competitive spirit across neighbourhood. Wampler, for example, describes the case of Ipatinga in Brazil in which a neighbourhood that did not have enough participants to achieve the amount of resources necessary to build the desired project cooperated with the other neighbourhood to create a plan that allowed taking turns in sharing resources (Wampler, 2007). On another example, during the competition across neighbourhood in Recife, the e-voting channel competed in a disruptive way with the face-to-face voting channel for the engagement of participants. While disruptive competition might be a good strategy to optimize firms' marketing channels, the examples of Recife shows that within democratic innovations it generates negative effects in term of legitimacy and citizens' frustration.

Integration based on rules and procedures

The most common integration mechanism is to adopt a system of rules and procedures that manages the interactions among channels. For example, Citizens' Assemblies require rules that allocate tasks between the mini-public and the meeting open to the public. CRM platforms often employ gamification strategies to govern the access to different channels of engagement. Participants might be required to complete capacity-building actions, social actions or reaching out actions (Gupta, Bouvier, & Gordon, 2012) before having access to a channel of engagement that has higher privileges or higher status. Nudges are also another more subtle approach that is widely used to optimize messages and choice architectures in engagement channels (Sunstein & Thaler, 2008). A growing literature explores the advantages and disadvantages of gamification, and nudges in online and offline spaces (Hausman & Welch, 2010; Deterding et al., 2011; Fuchs et al, 2014; Holler, 2015). The system of rules governing a complex democratic innovation is in some instances open to discussion. For example, many participatory budgeting processes create a sort of constitution that describes the rules governing the process and establish a procedure to review it. At first glance, opening the rules to discussion increases transparency and empowers participants to adapt the process to their needs (Abers, 2000; Baiocchi, 2005; Lerner & Secondo, 2012; Allegretti 2014). But in some cases, as this channel, was exploited in a way that solidified the control of the oligarchy of participants over the

process and reduced the possibility of spontaneity during open assemblies, as it happened in Porto Alegre (Baierle, 2007; Spada, 2012).

Isolation

The complete isolation of two channels in a phase of a democratic innovation is another possible form of integration strategy. The case of Belo Horizonte is proto-typical. Belo Horizonte, Brazil, created an online e-PB channel that has its own budget and is effectively an entire separate space with limited interaction with the face-to-face PB process. This strategy was designed to prevent the emergence of the conflict that had plagued Recife (Sampaio, Maia, & Marques, 2010; Allegretti, 2012). Isolation might also be particularly useful to prevent the tyranny of majority and dedicate specific spaces to youth or other minorities. Yet, isolation of channels appoints a great responsibility on the organizing entity, that is the only player able to ensure equity and even rights to compartmented chunks of publics.

2.1.5. Multi-Channel Participation in Summary

In this sub-chapter, we have introduced a classificatory scheme that identifies multichannel democratic innovations separating them from the concept of multichannel engagement and multichannel marketing. We have also reviewed a number of advantages and disadvantages of such innovations.

Differently from previous research activity that investigates innovations and their interaction with existing institutions (macro-level), or experimental analyses on the role of different organizational elements within one innovation (micro-level), we have examined clusters of actions that are specifically designed to engage a segment of the public – what we call channels of engagement. To our knowledge, this meso-level analysis has rarely been done before.

These comparisons have uncovered three models of integration: managed competition, regulation, and isolation. These three models are certainly not exhaustive of the variety of possible integration method, but constitute a first step in the exploration of the sequence and integration of different combinations of the Lego blocks that compose a DI.

What has also emerged from our analysis of the most recent cases is that the examples that integrate the largest number of channels appears to be more concerned with quantity, efficiency and satisfaction of participants, than effectively empowering citizens. Using the normative conceptualization introduced by Smith, these integration mechanisms focus more on improving institutional capacity than creating democratic goods. Thus, we conclude by suggesting that the next

step in the research agenda on multichannel democratic innovations is to explore the impact of different integration models on the division of power between participants and organizers, in order to promote the development of a new generation of integrating platforms that include in their code democratic principles.

2.2. The Publics of Multi-channel Participation

In the previous sub-chapter we defined *channels* as a combination of messages and participatory processes designed to encourage a specific behaviour in a target public. This assumption leads the reflection to define and describe what we actually mean by publics of a Democratic Innovation. In this deliverable we do not have the space to research the segmentation of public of PBs in different social groups that is a fundamental analysis in order to evaluate the actual inclusive capacity of a DI. This will be the focus of situated research on the cases of pilots and other case studies and will be reported in Deliverable 1.3 and 1.5. Nonetheless, it is important to briefly analyse the main trends of rejection commonly observed in practical implementation of PBs and other DIs, and in particular those ‘active rejections’ that implies the definition and exploitation of alternative channels of interaction that are in competition with those defined in the DI.

In theory, the legitimacy of Democratic Innovations relies on their capacity to create a participatory space that is either potentially accessible to all the citizens of a given territory (a city, a Region, a school, a country, *etc.*) or composed by their representative sample. From this perspective, the active engagement of groups of stakeholders directly interested in the decisions to be made, is out of the scope of our definition of DI. This also means that, for example, we cannot consider the mere consultation of a panel of experts as a significant advancement for democracy.⁵ Universality and representativeness are indeed two characteristics that have been transferred from liberal representative democracy into participatory experiments along the two decades, not without complications. Indeed DIs do not appear in vacuum: once we move from a theoretical picture into practical experiences it is evident that DIs always create tension and reaction in those individuals and groups already present on the political stage. DIs can affect pre-existing political cultures and transform consolidated power relation existing at a given scale.

In this sub-chapter we focus on two main groups of tensions created by the introduction of new DIs respectively with the associations and organizations of the civil society and with organized social

⁵ It is to highlight that both meeting with stakeholders and panel of experts can be a component of a complex DI as for example the phase of filtering in PB is delivered involving expert knowledge about the proposals collected in the previous phase and vote in the following one.

movement. While the first case regards a rejection of an universalistic approach in favour of alternative means of interaction that still can be included in the definition of ‘invited spaces’, the second case is characterized by the direct irreconcilable counter-position of invented vs. invited spaces of participation.

It is important to emphasize that, in theory, a Democratic Innovation do not necessarily requires the active role of an ‘official’ institution (generally a municipality, but it could be at any other scale of engagement), but could also be delivered directly within groups and organizations, or in less stable social movements. This is true if we limit the definition to the set of tools and methods that allow to manage inclusively a determined decision-making processes, independently of the scale and the level of institutionalization of the organization that is supposed to decide. Anyway, in this report we refer to the diffusion of DI along the last couple of decades (and recently boosted by the rise of the Network Society) as an historical event characterized by an explicit goal to ‘democratize the democracy’ (Avritzer & Santos, 2005) and its weakened and in bad shape institutions.

It is in this context that DIs as PB are an obstacle or rejected by organized players that already rule on the actual public sphere or already constituted as separated spheres. Such players, as associations and movements, in some cases, paradoxically even share the same goals of democratization carried by DIs.

2.2.1. Organized Civil Society and Individuals in Multi-channel Participation

As Matt Leighninger wrote in 2006, “in the 20th century, public life revolved around government; in the 21st century, it will centre on citizens” (Leighninger, 2006:3) Similarly, many others discuss the dawning of an era in which citizens have come to participate in all sorts of matters previously reserved for government bureaucrats and politicians. To increase citizen voice is viewed as a necessary counterweight to elite power and bureaucratic rationality. Whether or not citizen participation has *actually* marked the political agenda, a remarkable consensus has emerged around its desirability (Peck & Theodore, 2010). This worldwide participatory wave of the last decades is based on the expansion of deliberative practices within civil society, in contrast to traditional practices of representative democracy. DIs differ from traditional institution and develop new ways to engage citizens. This new logic, featured by deliberation and focused to the totality of citizens, would propose distinct political relationships that are based on argument and the participation of all citizens. We can say that the impetus of the DIs is the democratization of the public sphere. As we can imagine, their implementation has given rise to tensions between logical outlooks that have differing conceptions of the public space. Drawing on deliberative framework, it could be said that

through rules and procedures DI attempts to structure the informal space wherein communicative action rests. This structuring of the public sphere can transform relations within civil society, with associations ceasing to be the only connectors between unorganized public opinion and power.

From a deliberative political turn, new DIs involve a context of rules and procedures that oblige actors in traditional civil society to behave differently. This rationalization signals a break from civil society's traditional spontaneous mediation. If we have traditionally understand civil society as a set of 'institutions, practices and networks of voluntary life' (Baiocchi et al., 2011), mainly through secondary associations, then DIs change the image of civil society by, for example, elevating the political subject to the globality of the citizenry along with deliberative ideals. In many experiments, as it is no longer necessary to take part through the associations, this can be done directly. So, it presupposes a different civil society from what has been normal so far. It rejects the image of a liberal civil society, isolated from the evolution of politics, but also denies the possibility of a republican society based on common values. Civil society is conceived from the individual's standpoint, but instead of secondary associations, interests and strategies are designed collectively in a public deliberative realm.

The new spirit of participation hides a conflict within civil society itself, between associations and the logic of public action that the DIs brings with it. It is so because in the new institutional framework proposed, associations have to share the voice. If associations used to be the actors that structured informal public opinion, DIs offers a new way of structuring public opinion where citizens are directly invited to get involved in public decisions. This relation between the associations and the DIs conceals a friction with important consequences for the democratic life, as it presents itself as a battle for representation of the citizenry's voice. It also shows a conflict around the way political decision can be legitimated. The idea of broadening the spaces of political inclusion, which has been brought into DIs elsewhere, changes the internal links within civil society (and its relation with the state). It generates a conflict between the old and the new protagonists, because the former has to share the political space, which betrays a significant problem about the right to participate and exert influence in political spheres. Who speaks on behalf of the citizens? While new theories of administration show that other forms of management with participatory mechanisms make it easier for citizens to get involved (Evans, 2003), users of the traditional channels of participation protest and, in some cases, question their development (Hendriks, 2002). This friction illustrates the difficulties faced by attempting to broaden the space of political inclusion, even in a context where that broadening is based on deliberative principles and supported by administrations.

Tension between individuals and organized groups

It is understood that individuals represent only themselves, whereas the associations, on the contrary, are the representation of the citizenry before the public powers. They assume to be representative of the general interest. From this point of view, a problem of legitimacy arises, as besides individualism, associations brandish the historical role they have played in defending citizens' rights, which ought to support their privileged participation in the urban dynamics.

The risk for associations came from the way public interest is understood. If politicians think that associations are not able anymore to structure public opinion (in deliberative terms) then, for them, DIs mean the victory of individualism and the impossibility of structuring public interest in a fair way. In this conflict we see the collision produced between representative and deliberative practices. A procedure that is open to all would be a hindrance to the emergence of an expert citizen and favour ill-qualified knowledge, which would easily be manipulated by the public powers. Here we may observe that opposition on the part of associations is spun as a critique of a political project that wishes to change the relationship between the administration and civil society. Associations question the structuration of public opinion by universal procedures, because they think that along with deliberative practices, government gets to neutralize the countervailing powers of the local civil society.

The core of the challenges set up in cities by DIs lies in the opposition between two different ways of understanding public interest building, centred respectively on citizens as individuals or on the organized groups that compose the local civil society. The opposition of associations represents a style of organisation and civil society that favours representability and the negotiation of interests over deliberation or transparent and public democratic procedures. So we can see that deliberative reforms are not so easy, not only because they mean a new challenge for political parties, but also a new structuration of public sphere, which implies a transformation of internal relations within civil society. One of the main criticisms of democratisation that DIs and PB in particular promotes is usually thought of as a continuation of the individualisation process of modern society, which would threaten strategies for collective empowerment. Many of the arguments that make up their opposition could be understood as a reaction to the displacement of their former privileges. Their arguments against the ability of ordinary citizens to participate in politics or against the individualisation process of modern societies betray an elitist position very similar to the arguments that have, at different times over the last two hundred years, challenged the participation in the political system of women, the illiterate or those without property. We can think that the problem for the associations is that the new model of participation takes them onto a plan of accountability,

that is, they have to show they provide an effective voice for citizens, ideas and abilities that help to clarify debates.

It is right to think that DIs offer a new way of building public interest based on deliberative practices. In the Network Society we can expect the same problems, even boosted by the availability of new means of participation mediated by devices, tools and methods that lead to an increased individualization (Wellman, 2001). It's right that digital and networked devices allow a massive participation, something in-person DIs miss, but it does not imply any automatic and actual collective empowerment (Rheingold, 2002; Castells, 2009). The main issue, as it happens with DIs against traditional participation, will be the same: the risk of individualization.

2.2.2. Confluences and Tensions between Democratic Innovations and Social Movements

The final sub-chapter of this chapter focuses on the relation between Democratic Innovations as PB and Social Movements: what we formerly described as the contradictory relation between invited and invented spaces. In order to track both the points of confluence and the points of confrontation between the approaches of Social Movements (SM) and those of Participatory Budgeting, intended as a emblematic case of complex democratic innovation, we set out from the consideration that it is useful to take the conceptualisation of each of them to the extreme. That is, it is possible to define both PB and SM in a broad and inclusive way, in which they show diverse points in common.⁶ However, we believe that it is more feasible to examine the key elements that can determine convergences and divergences in greater depth, if we compare and conceptualise them in their most radical and restrictive way: that is, linking PB to a type of institutional tool that tries to improve existing democracy; and considering the most ground-breaking facet of SM – in other words, their most revolutionary facet, focused on methodologies of social dialogue that are different from institutionalised ones.⁷

A second starting point of this sub-chapter is the different fields in which these tensions and confluences take place. Following the indications of Wampler (2012), there are four foundational

⁶ We already defined PB in Chapter 2. In the case of Social Movement, a basic and broad definition would consider it as a type of Collective Action that is sustained and maintained over time (Tarrow, 2004). From this broad perspective, coordinated group dynamics that demand more participatory modes of local economic and political agency, would establish common bonds between PB and SM.

⁷ This more disruptive and non-institutional consideration of the SM excludes certain types of organizations such as NGOs, and refers on the one hand to classic movements (national liberation, labor and workers organizations inspired by socialism, communism, anarchism etc.); and on the other to New Social Movements, organized movements that spread in the 1960s such as feminists, environmentalists, neighborhood, squatter, lesbian-gay or students (Offe, 1996).

principles of PB programs: voice, vote, oversight and social justice. With respect to SM, the relation between ends and means – that is, connecting strategy and tactics, the group’s stated aims and its mode of internal action and organisation – as well as the dynamics of aggregation around the group’s leaders and ideas, are the elements to highlight. The way in which this series of principles is articulated will determine the fields in which confluences and tensions between PB and SM are materialised. Setting out from these premises, we propose the hypothesis that the key to understanding these convergences and divergences basically refers to a question of focus. PB is based on how the political process is carried out (deliberation, transparency, participatory practices); while SM focus more on what it consists of (questioning the root of the existing political structure and the deep social change that is pursued). We believe that this underlying divergence can be useful for analysing the tensions and potential cooperation produced between them.

Confluences around active citizen participation

A first field to analyse these relationships is that of citizen participation in local economic and political affairs. The academic literature highlights the expansion of PB programs since its inception in Porto Alegre in 1989, being actually more than 1500 worldwide experiences (Sintomer, Allegretti, Herzberg, & Röcke, 2010). Beyond the differences in places as diverse as Brazil, Europe or China, scholars agree that throughout the world the PB programs can be distinguished by the creation of a public sphere in which citizens can directly meet to discuss a political problem about a particular expense. In this context emerge a series of participatory innovative mechanisms, pivoting from the model of representative democracy to one that promotes local participation based on the expansion of deliberative practices (Avritzer, 2006). This participatory model seems to improve the functioning of the democratic political structure; making it more transparent, inclusive and giving more voice to citizens. PB, as any other Democratic Innovations can be considered in this light as an institutional tool aimed at improving the quality of the existing representative democracy.

On the other hand, regarding political processes social movements show two aspects: an essentially static one, defined by a series of relatively stable characteristics over time, connecting with the idea of institution-form⁸ and a more dynamic one, where their modes of collective action and internal organization fluctuate over time (Ibarra & Tejerina, 1998). The slope of the SM that interests us here is the institution-form, since it becomes a structured agent and stands as an interlocutor with

⁸ Do not confuse the sociological notion of *institution-form*, which refers to a stable and identifiable social structure (applicable to various cases such as social movements, education, family, religion etc.), with the most widespread notion of political formal and legal institutions, which are represented by governments and the State in different dimensions and areas.

authorities through individual leaders and representatives. In both cases, PB and SM try to encourage active citizen participation – what Wampler (2012) calls *voice*; so, at the root of this issue at least, it could be considered that a confluence happens, an opportunity for cooperation between PB and SM. Both perspectives criticize the apathy of citizens and the weakness of representation in actually existing democracies. The ability of the citizenship (word used preferably in the PB language) or the sovereign people (used in SM language) to decide about its own future, and thus become an active agent, emerges in both perspectives. Therefore regarding the field of active citizen participation, the outstanding element seems to be (ideally at least) one of confluence between PB and SM.

However, as we deepen this idea, the question about how to get citizens to participate in political affairs and be more active emerges. At this point, the proposal of the PB seems to become more robust, because in these processes, based on deliberative models, all individuals are challenged to participate on equal terms and the role of organized groups is somehow limited (with many tensions as we have described in the previous sub-chapter). The more informal internal organization of SM, without so clearly pre-defined mechanisms for participation, may tend to extol charismatic leaders; a type of leadership that emerges due to the exemplary character of an individual personality, becoming a referent for the group (Weber, 2002). Thus the process of active citizen participation can ideally be considered as an element of convergence between PB and SM. But the emphasis of the PB programs in how these dynamics should be specifically implemented, through clearly defined regulation and self-regulation mechanisms and rules, could assure the active participation of all individuals. Participation is then more accessible in DIs at least from a formal and regulatory perspective.

Disagreements about the public authority

The extension of public authority (vote), which places the authority of local institutions in the hands of citizens rather than professional politicians, has been defined by Wampler (2012) as a ‘school of democracy’. This proactive and critical idea from the perspective of the PB is based on a perspective that not always coincides with the approach of SM. That is, as posed by several authors (Martínez, Casado & Ibarra, 2012) the SM themselves can be considered as non-discriminatory and non-hierarchical learning schools; schools for no ordinary learning to think about the possibility of other worlds. In this sense, learning to think and imagine other worlds entails a framework of sociopolitical reality – known in Social Science as framing process (Benford & Snow, 2000) – that can be radically different from the officially institutionalized one; and this certainly affects the very notion of ‘democracy’. Notion that from the position of PB is naturalized and normatively conceived as the ideal to be achieved; a renewed democracy guided by the deliberative model (Ganuza, Nez &

Morales, 2014). But not all social movements are so complacent with the normative idea of democracy and its development in the last decades. As posed by authors like Offe (1982) or Jessop (2008), the imposition of the political framework based nominally on democracy, has been a condition of possibility inherent to capitalist systems in modern western societies. Depending on the internal configuration of the democracy-capitalism tandem, Jessop distinguishes the National Keynesian Welfare State related to ‘Fordist’ production that emerges after World War II, and the Schumpeterian Competitive State that spreads from the 1980s in the pos-Fordist neoliberal era. If the citizen empowerment which is referred from PB, derived from an increased authority in decision-making, focuses purely on how to increase the quality and quantity of public authority (vote) without questioning the profound effects that this type of political organization (the fluctuating democracy-capitalism tandem) has on the whole social body, then it can emerge a potentially profound disagreement about the what; that is, about what is being legitimized by this increased public authority.

At this point Wampler (2012) and Ganuza, Nez and Morales (2014) propose that DIs as the PB can lead to redistributive policies aimed to help the most disadvantaged social sectors. A movement of revolutionary inspiration, however, could question the legitimacy that the vote gives to a system whose root is inherently based on inequality, as result of the particular configuration of political economy (Zizek, 2010). The nature of political economy seems to fade into the tangle of procedures that do not allow participating and collectively deciding on the deep mechanisms of the system itself. Again, beyond the potential radicalism of the approaches of SM, it emerges a misunderstanding based on different types of legitimacy: one that focuses on how should be the process itself (PB), without question the profound nature of the system; and the other one centred on what to achieve, the will to change the political and economic system itself through the active agency of individuals and citizens, regardless of the more or less democratic means used to reach that end.

Transparency and the role of innovative technology platforms

Transparency is one of the key elements in participatory processes. That is why the PB seeks to reform the functioning of the State, at local level at least, by implementing mechanisms that impose transparency as a guiding principle, through an increased capacity of monitoring the whole participatory process. At this point the role of ICT in increasing transparency is of paramount importance. The transparency made possible by the massive integration of collaborative platforms for PB management, is configured as an element that can certainly have a positive impact on the ability of citizens to oversee the process as a whole; especially when the role of bureaucrats and technocrats in public policy is not always directed at encouraging participatory and transparent

practices. The impact of ICT regarding SM has also been undeniable, as posted by scholars like Manuel Castells. The connection between movements and communicative technologies is nowadays very strong, and in this context emerge innovative political experiences for protest and demand that are able to mass self-communicate (Castells, 2012). The innovative technological tools are able to facilitate the transparency of internal budgetary and organizational activities of the movements as well.

The adaptation of ICT, both to the development of PB as to the dynamics of the SM themselves, can therefore be considered as an element that tends to generate confluences. Therefore, by increasing the internal transparency of their dynamics through ICT, certain obstacles (the excessive weight of personalist leadership in the case of certain movements, and the opacity of the bureaucracy in professional politics and of the implementation cycle of PB) may be combated. However, emphasizing once again the different frames of interpretation from which the sociopolitical reality is constructed (Benford & Snow, 2000), the development of appropriate multi-channel and innovative ICT platforms seem to acquire a more powerful logic in the case of PB. Again, if the how of the political process (*i.e.* deliberation, participation, transparency) is the central point, an innovative ICT platform – like the one promoted by EMPATIA project – becomes critical to the overall program. In the case of SM, if ICT developments are useful to obtain certain purposes – the emphasis on what should be achieved, deep sociopolitical changes –, they will of course be promoted. But they will be no more than that: eventual means for specific ends.

A different conceptions of social justice

In the hypothesis developed in this sub-chapter, this is the great point of divergence and what generates the greatest tensions between PB and SM: what each of them understands by social justice (what) and the way to achieve it (how). This is not a minor disagreement. It is a question of different types of legitimacies, some focusing more on ‘how’ (participation and transparency of the processes in the case of PB) and others on ‘what’ (the strong idea of social justice and conquering rights through struggle in SM), which generate tensions. Perhaps acceptance – by both PB programs and SM programs – of the role that each of them plays in this enormous socio-political function can help bring about a greater understanding between them. Recognising, on the side of the defenders of PB, that conflict is something inherent in every society and in the underlying relations of power (even more so in capitalist societies like ours). And, similarly, accepting that claim-related action and social protest play a fundamental role when it comes to conquering rights; the democratic systems themselves have resulted from historical popular struggles (Tilly, 2007). On the side of SM, perhaps the acceptance of the need for proactive and constructive positions – which should have the capacity

to collaborate with those institutional political measures that help to improve the current state of things, at least at the budgetary and local level – would be a position that helps to build bridges. Similarly, perhaps the recognition of the need to implement political mechanisms – internal and external to the movement itself – that are more transparent, participatory and just, would be an initiative that leads to an understanding between PB and SM, leaving particular, personal and organisational interests to one aside.

3. Case selection

Among the variety of democratic innovations the EMPATIA consortium has selected four case sites that will implement a multichannel engagement system that includes participatory budgeting. This chapter explains the reasons behind such specific choice, and offers a definition of PB and a quick overview of the academic research on this democratic innovation with a particular focus on the introduction of ICT tools and the recent hybridization of participatory budgeting processes. Then the chapter concludes with a brief overview of each case site and how such site contributes to overall testing of the EMPATIA platform.

3.1. Why participatory budgeting?

‘We all learnt from this process and we certainly still have much to learn.’ (Dutra, 2014: 9)

In the past four decades the debates over democracy have focused on the crisis of what is generally referred to as its ‘representative’ model. There is a growing awareness of the so-called ‘pathologies’ (Santos, 2008) presented by such a model, triggering debates and proposals focused on the possible solutions to improve democracy.

The representative democracy that is being contested is based on the idea that citizens cyclically elect their representatives, through free and fair elections, to make decisions on their behalf. In this respect, although positions widely differ regarding how to handle those problems of representative democracy, there is a considerable convergence in their diagnosis. Deliberative remedies, based on several mechanisms for citizens’ participation in decision-making processes, are being pointed out as the proper answer to the various troubles that are seen as pervading contemporary democratic systems. The most consensual way to make democracy more effective, or a good/better democracy, is then based on the expansion of participation of the electorate through mechanisms of decision-making. So, if citizens are being pushed aside from the centre of democracy, the more likely alternative advanced to restore system equilibrium rests on the implementation of another form of organization for governance where citizens can play as main actors.

This debate, which dates back to the 1970s (Arnstein, 1969; Pateman, 1970), has never come to a closure. Ordinary citizen involvement into the political sphere, namely in decision-making processes, has become a key strategy for local, national, and international development. Despite the controversies that persist concerning an expanded notion of citizen participation (Schumpeter, 1976;

Dahl, 1989), the topic came to stay in the political and academic agendas. For instance, for Dahl (2005), the democratic ideal described above – based on an extended participation – which he calls realistic utopianism, is too demanding to be fully achieved in the real world. This is the reason advanced by the author to defend that certain political institutions may be necessary to approach the ideal democracy, but they may not be sufficient to completely neutralize the gap between ideal and real democracy.

Although scientific literature over the last four decades has been highlighting the growing importance of citizen participation in politics, there are no convergent clear ideas on how and to what extent a wider inclusion of civil society in the interaction with the State may be conceived and how are yet to come. Discussion of conceptions of participation have been presented as a scale of increasing control by citizens, ranging from the information and transparency of government activity through adequate information to an effective citizen engagement in decision-making (Arnstein, 1969), the latter guaranteeing a clear deliberative role of ordinary people in politics and democracy and some binding power of their decisions.

The role of citizens' participation in concrete experiments worldwide has also been under severe scrutiny. As well described by Archon Fung, in fact, it is possible to imagine two differentiated macro-categories of participatory processes, according to how the implementers might 'read' them: (1) the '*deontological*' and the (2) '*consequentialist*'. The deontological perspective would represent experiences where innovations are valued because 'they help to create right relationships among citizens and between citizens and the state'; hence that 'democracy worth having simply requires greater citizen participation (participatory innovation), deliberation (deliberative experiments), and rights to information and knowledge (transparency) quite apart from any other effects that these innovations have' (Fung, 2011). This perspective would suggest that by offering the space to citizens to participate is sufficient, without the need for wider goals. The (2) *consequentialist* perspective would value innovations as more or less valuable according to the extent to which it secures additional values including '...policies that are responsive to citizens interests, social inclusion, redistributive justice, state accountability, wiser policies, and so on' (id.). *Consequentialist* processes focus on translating their main objectives into action using specific (and multiple) tools, which guarantee consequentiality and coherence between motivations, aims and targeted results, and evaluate them accordingly.

The team and partners of 'EMPATIA' project are definitely committed in contributing to reinforce the multiplication of participatory processes informed by a *consequentialist* vision rather than offering tools for refining *deontological experiments* and justifying their un-evolutionary perspectives. In fact,

we strongly believe in what Santos (2009) perfectly stated, when he underlined that for democratic societies is not only a realistic horizon, but rather a moral duty, to imagine legal transformations and democratic innovations which seek goals of ‘strong social emancipation’, while in not-democratic environments, fulfilling goals of ‘weak social emancipation’ could be considered a success. Only under such conditions we could imagine organisms of the State as part of what Santos in ‘*A gramática do tempo*’. Santos (2006) calls ‘*Estado como novíssimo movimento social*’ (State as the latest social movement), *i.e.* a ‘new form of political organization larger than the State, of which the State is an articulator and which is part of a hybrid set of flows, networks and organizations that combine and intermingle state and non-state elements, elements coming from national, local and global levels’ which allow a ‘solidarity-based and participatory reinvention of State solidarity (p. 364).

Since our project ‘EMPATIA’ was initially set mainly as a support for countries of consolidated democratic tradition in order to strengthen and enrich the intensity of their democracies, is our commitment to produce deliverables and recommendations, which could contribute to work in a sustainable way. We would like to produce outputs which could help governments and societies in increasing the sustainability of public policies, helping to pursue a holistic approach when working with a concept which is inherently complex, with its multiple social, economic, environmental, and cultural dimensions. We are deeply convinced that balance among these dimensions of sustainability can only be achieved through involving citizens in decision-making, in a *deontological perspective*, with citizens’ participation being seen as more than just a norm of institutional appropriateness, but rather a driver of broader goals.

Under such a perspective, our choice of Participatory Budgeting (PB) as the most adequate field for testing how far information and communication technologies can deepen the commitment with genuine citizens’ participation of modern democratic innovations, can be considered a very effective and a coherent one. In fact, PB has become known as one of the most effective participatory practices designed and implemented in the last 27 years, probably the cornerstone and the cutting-edge of participatory local governance. This is true especially in terms of promoting trust in representative institutions by stimulating participation, and co-governance, through the direct involvement of citizens in decision-making on economical-financial issues, which are at the base of every public policy and represent a concrete and also symbolic field from which a renovation of political cultures is taking place.

Underlying the various versions of PB is the common assumption that ordinary citizens are central actors in decision-making processes concerning the allocation of public funds, at the local and regional levels. Hence, PB is widely regarded as an important instrument for political change and the

most valid option to overcome some of the factors influencing the entropy of current modes of representative government.

3.2. What is participatory budgeting?

‘Utopia is on the horizon. I move two steps closer; it moves two steps further away. I walk another ten steps and the horizon runs ten steps further away. As much as I may walk, I’ll never reach it. So what’s the point of utopia? To keep walking.’ (F. Birri, quoted by E. Galeano, interview on Radio 3 of Spain, 2002)

Despite more than 30 years of history, PB may still be described as ‘work in progress’. Its local dimension is one of its main features, which has fostered its international recognition as ‘good practice’ of urban governance. As Allegretti states (2014), PB is imaginable today as an ‘ideoscape’ (as in Appadurai, 1991); a political model that travels globally, but that only exists through its local appropriations. One must not ignore, however, that although PB gained notoriety and visibility at the local level, it also infected regional and national governments as well as international organizations, cooperation agencies, universities, non-governmental organizations, and other agents around the world (Dias, 2014). As such, the same model ends up transforming itself in an incremental manner through its diverse local implementations, and at different levels. That is why PBs evolution over its more than two decades of existence is still a topic of frequent discussion and debate.

As it was developed since the Porto Alegre experience, starting in 1989, PB “is an all-embodying process, involving diagnosis, deliberation, decision making, and control. It is also a clear institution composed of rights, duties, roles, functions, bodies, and internal self-regulations” (Stortone, 2010: 7). PB could be defined as a typology of democratic innovations that modify the procedures of one of the most important aspects of urban politics — the formulation of institutional budgets – through repeated negotiations between the local government (or some local administrative agencies) and participants. The public of PB could be limited to citizens or include other groups (*e.g.* including commuters, migrants, children and other inhabitants of a specific territory, not necessarily holding formal titles of citizenship), or, in some rarer cases, limit the participation to specific members of civic associations, tax payers, or an even more reduced groups of persons chosen through methods of random selection. PB designs also vary significantly, combining in different ways elements of deliberative, participatory, and representative democracy. In major urban areas, for example, citizens’ delegates have been elected by participants to follow more intense phases of detailed planning, and often to monitor projects’ implementation. However, all PBs share the main objective

of increasing the number of agents involved in the budgeting process. Most PB designs focus on discussing expenditures, although there are a few that also deal with revenues. As an example of the latter, the Brazilian city of Canoas allows citizens to direct part of their local taxes to specific neighbourhood projects.

Most existing PBs concentrate on capital expenditures (*i.e.* investments, and usually just a limited part of them) due primarily to the following two reasons: (1) investments are more visible in the public space, so they are more attractive for citizens and easier to explain; (2) investments are the most flexible and independent part of an institutional budget, so the cost/benefit relation is maximised between the time needed for discussion and the possible results (in terms of variation of the original budget draft, which is based on the political program of ruling parties). These benefits would be fewer if the discussion concentrated on more rigid costs (such as current expenditures or personnel wages).

The growing interest in PB appears to have emanated from the specific features, outputs and impacts of the well-articulated and more radical Brazilian experiments (*e.g.* Porto Alegre, Belo Horizonte, Recife, Fortaleza, Guarulhos and Canoas), as well as scattered experiences in other countries⁹. The spread and growing interest in PB has generated the temptation to formulate ‘normative’ and ‘essentialist’ PB definitions (Genro & De Souza, 1997; Antequera Charter in Spain, 2008¹⁰). Nevertheless, most of literature today uses more ‘neutral’ definitions based on methodological features, which are broad enough to welcome a large series of experiments with different width and depth. Within this family, the PB definition developed by Sintomer *et al* (2008, 2012) remains the most widely used definition today ‘the participation of non-elected citizens in the conception and/or allocation of public finances’, with five further criteria:

- The existence of an explicit discussion of financial/budgetary resources, which must take into account the fact that that PB usually deals with scarce (and often shrinking) resources.
- The need to establish a dialogue with an elected body that has specific responsibilities and some concrete power over administration and resources (such criterion avoids confusing PB with other forms of community-driven decisional processes that do not include an active role for elected authorities in the process).

⁹ Among the latter: for instance: Villa el Salvador in Peru, Seville and Santa Cristina d’Aro in Spain (or, recently, Madrid and Barcelona), Grottammare in Italy, Rosario and La Plata in Argentina, Chengdu and Zeguo in China.

¹⁰ The latter is a ground-key-document approved by several Spanish cities, guided by radical-left municipal governments, in order to statue “their” vision of PB, with the explicit goal to counterpoise and contrast it to the “minimalist” and “light” concept proposed by groups of cities led by liberal/conservative political forces.

- The existence of repeated cycles of events that take place over years, omitting processes that take place as part of a single isolated event (one meeting or a referendum on financial issues, for example).
- The inclusion of some forms of public deliberation within the framework of specific meetings/forums configuring a new public sphere (therein avoiding the definition of PB as a simple survey on budgeting issues, a process in which citizens would not have contact with one another).
- The existence of a certain level of accountability that would allow participants to get feedback on whether or not their proposals have been accepted by the institutions, and would provide citizens with information on the implementation of their proposed projects.

The cyclic criterion of a PB converges into a common PB model that is structured by two interlinking sub-cycles. The first sub-cycle focuses on sharing the decision-making process with citizens (by collecting proposals that address specific problems and present possible solutions, verifying their feasibility, ranking them and integrating them into drafts of official budget documents, which will then be formally approved by elected officials). The second sub-cycle involves the implementation of joint decisions. In particular, it addresses an institution's ability to respond to participant satisfaction and prevents frustration politically backfiring on the experimenting institution.

If it is generally understood that PB entrusts a given community the right to decide on budgets of their interest, though the key criterion of deliberation does not necessarily lead to *shared decision-making* by non-elected participants. In the dominant German model of PB, for instance, people can freely rank suggested priorities but elected officers make the final decisions based on (and justified in great detail according to) participants' indications. With increasing frequency, however, many PBs reject a consultative formula based on 'selective listening' (Sintomer & Allegretti, 2009) or political authorities' 'cherry-picking' of proposals (presented by citizens).

In the last decade, entire countries – currently the United States, Poland and Portugal (Alves & Allegretti, 2012; Sintomer et al, 2014) – are abolishing consultative PBs. In some case, key external consultants and university researchers have refused to support such processes due to the widespread awareness that only PBs that share decision-making power with their participants can challenge the traditional political culture, which over-emphasizes the role of representative institutions in public policy development. Moreover, there is a conviction that PB cannot be a useful 'learning by doing environment' if it is only consultative. PBs prove to be capable of creating feelings of 'co-responsibility' and 'ownership' among citizens, balancing duties and rights, when they open

co-decisional spaces that reward participants for their time and the energy they have voluntarily invested discussing public matters. A key success factor of PB is the balanced mixture of (a) the institutional political will to open part of their budget to public discussion, (b) the self-organizing capacities of social actors, (c) a rigorous organizational design for participation and (d) the level of financial commitment (and autonomy) of the institutions experimenting with PB. Success is also contingent upon the existence of clearly defined goals and motivation behind the participatory process, particularly by aligning goals with the means to achieve them. In the absence of these factors, the ‘raison d’être’ of a PB is more fragile and the initiative is unlikely to be sustainable.

3.3. Brief overview of the academic literature on participatory budgeting

As PB is one of the most intensely studied participatory practices today, it is far from easy to properly track the amount of literature produced on the subject during the last decades. This process is widely recognized as intimately linked to the (re)democratization processes of the 1980s and 1990s in the global South, particularly in Latin America. Originally implemented in Brazil, the geographical dissemination of PB has subsequently reached a large part of the world. PB originated from experiments conducted in small cities of Brazil (as Pelotas, in Rio Grande do Sul, Boa Esperança in Espírito Santo state, Piracicaba in São Paulo State or Lages, in Santa Catarina State) during the transitional period to Democracy. The adoption in 1989 in the metropolis of Porto Alegre (the same year in which it was being tested, with a lower degree of success, in S. Paulo and other larger cities in Brazil) helped it spread soon to several other Brazilian cities, then to other countries in South America and, finally, to other continents and regions of the world (Shah, 2007; Sintomer *et al.*, 2008, 2014). Its implementation launched an open discussion on urban governance, public management, citizen participation and citizen and community empowerment, as well as on a new opportunity to expand and deepen democratization (Fung & Wright, 2001; Souza, 2001; Santos, 2002; Santos & Avritzer, 2002).

The still growing literature on PB displays an agreement on the fact that direct participation of ordinary citizens in decision-making processes is the central value of the process (Abers, 2000; Baiocchi, 2005; Stortone, 2010). This particular device, oriented to improve local governance and to enhance civil society participation, is since 1989 the centre of an international debate focused on the ‘democratization of democracy’ (Santos, 2007), or – as Dutra simply puts it – a debate where “Democracy’s problems are solved with more Democracy” (2014: 10). After 27 years of experiments all over the world, and due to the remarkable results that PB achieved in terms of effectiveness, redistribution and development, it became a favourite example of what high intensity democracy

looks like (Santos, 2002), one of the most often replicated participatory procedure around the world, frequently acknowledged as ‘good/best practice’ in democratic urban governance. It is regarded as a major example of a pathway to a better democracy (Gret & Sintomer, 2005), a telling example of advancing extended participation as a response to the current limitations of representative democracy.

Part of the literature on PB tries to clarify how this procedure is located among the different streams of democratic theory. The theory of deliberative democracy and the approach of participatory democracy seem to compete more directly over the status of PB. Some authors claim that PB is distinct from other participatory or deliberative formats in a number of ways (Hilmer, 2010; Sintomer, 2010). In PB, citizens also cast votes for or against specific projects, with local governments committing themselves to the implementation of the projects decided by citizens. Although in a considerable number of cases, the decisions are not legally binding, it allows citizens to call for a political commitment which can be translated into actual public policy initiatives subject to monitoring, unlike other participatory formats. A PB process is invariably steered by a specific normative orientation, often associated with social justice, territorial distribution of resources, or addressing the needs of disadvantaged groups or neighbourhoods (Sintomer, 2010; Wambler & Hartz-Karp, 2012).

Participatory Budgeting is acknowledged as an enactment of deliberative democracy and as the most robust example of the possibilities opened up by the practice of participatory democracy, able to complement and to combine representative with direct democracy (Santos, 1998, 2002; Hilmer, 2010; Sintomer, 2010).

The recognition of the singularity of PB is linked to its peerless ability to unsettle current theories and practices of democracy. PB indeed challenges the theoretical basis of representative democracy, including the definitions of its actors and institutional arrangements, and it has the noticeable virtue of proceeding with that challenge in a constructive way, appearing as a viable contribution to the emergence of renewed conceptions of State and democracy (Santos, 1998).

In the context of democratic theory, the participatory initiative which has gained most space in ongoing discussions is indeed this kind of process, since it represents the possibility of a bottom-up design and a process involving civil society as its main actor (Avritzer, 2009; Pateman, 2012).

PB thus allows participatory democracy to appear in a different light from common conceptions of the deliberative theory of democracy. If the focus of deliberative democracy theory was on the way decisions should be made, participatory democracy focuses on the discussion of participation as a

right to intervene (Pateman, 2012). Accordingly, citizens participate by their own will, assuming that participation is something that must happen freely, based on people's interest to decide about their own problems and not depending on previous selection processes or by being paid for. Participation, thus, appears here as a universal right to be freely exercised (Pateman, 1970, 2012; Santos, 1998; Dagnino, 2002; Santos & Avritzer, 2002), and PB is the most relevant opportunity to enact that right.

The remarkable flourishing of innovation through PB within and complementary to existing forms of democracy is hard to deny. But a growing set of criticisms has surfaced as well. Acknowledged weaknesses of participatory budgeting should not be neglected, namely those regarding inclusion, since public meetings may be open to all, but illiteracy, language barriers, fear of retaliation for criticism and other obstacles are part of the process. More importantly, participatory budgeting should not be mythicized or glorified in an uncritical way, since redistributive effects, while important, are still modest, given that only a small part of the budgets of local governments are subject of public deliberation (Silver *et al.*, 2010).

Regarding the list of acknowledged potentialities, better government is only possible through the broadening of citizen participation by means of opening up spaces for the 'power of the people' to be exercised (Allegretti, 2014). PB strongly contributes to the democratization of power, to fight inequalities and injustices and to prevent the private appropriation of public matters (Dutra, 2014; Cabannes & Lipietz, 2015). It tends to promote open-ended as well as public-minded discussions among equal citizens about resources and policies (Baiocchi, 2003). Its deliberative and self-regulating capacity highlights the process as a particularly powerful tool of public decision-making.

Table 1 - Strengths and Weaknesses of PB

Strengths	Weaknesses
<ul style="list-style-type: none"> • Makes representative democracy open to more active participation of segments of civil society, since it is based on a new democratic model that can be merged with and work within the formal representation structures of liberal democracy, as a supplement and a complement to them [allows a 'co-management' (Fedozzi, 2001), a 'joint governance initiative' (Gret & Sintomer, 2005: 131) or a 'co-government' (Santos, 2005) between State and Civil Society] • Reduces clientelism, populism, patrimonialism, authoritarianism, therefore changing political culture and increasing transparency and popular/public control over 	<ul style="list-style-type: none"> • Forms of clientelism still survive. In many cases, especially in Western contexts, the process emerges as a top-down strategy, which limits participation beyond citizen consultation. Thus, PB may not contribute to the control of resources and decision-making process by citizens, but instead involve few or just well-connected persons • In some other cases, once citizens are treated as stakeholders within government processes, they become vulnerable to cooptation, since they are less likely to criticize processes they are involved in • Interaction with government puts community

<p>State</p> <ul style="list-style-type: none"> • Stimulates associativism • Facilitates a learning process that leads to better and more active citizenship, by generating new participatory publics • Allows citizen/community empowerment: ‘empowered participatory governance’ (Fung & Wright, 2003), introducing in decision-making a ‘fourth power’ (Sintomer <i>et al.</i>, 2013, 2014) • Inverts priorities toward the majority of the population (the poor), together with attempts to open participatory channels to other social classes and groups • Provides a means of balancing ideological concerns for promoting citizen empowerment with pragmatic responses to citizens’ demands • Provides a structure that can carry over beyond a governmental term • Every citizen may formulate and address her/his own needs, as well as mobilize her/his own knowledge within the PB decision-making process. But it encourages participants to move away from individualistic views towards solidarity and seeing city problems in common rather than personal terms. • It may reorient public investments towards the most disadvantaged districts/social groups or create a more equitable sharing of the resources, improving economic redistribution and social development • Reform of public administration oriented to modernization, efficiency, and a user-oriented administration. PB improves the relationship between technicians and users 	<p>movements’ independence at risk</p> <ul style="list-style-type: none"> • PB is a practice of power, always determining a particular relationship between the ones who rule and the ruled ones, and that does not mean that more power is the same as equal power among actors • Civil society is still developing • Financial limitations and resources for participatory budgeting are still scarce, limiting the scope of the initiatives • Communities tend to stop participating once their demands are met; specific individuals are also less interested in investing time and energy in public learning or empowerment sessions • Difficulties persist in broadening participation: the very poor, young people and the middle-classes are underrepresented • Citizens’ lack of technical and analytical skills to weigh different arguments may jeopardize participation. Technically, there is also a weakness in the capacity and leadership of local actors (elected representatives, citizens, etc.), which negatively affects the quality of the participatory local governance process • Many PB participants are interested in securing short- to medium-term public works projects, which makes more difficult to generate discussions on planning for the future of the city • Initiatives disappoint participants because of the slow pace of public works • Participatory budgeting risks reification of the popular movement, making it difficult to maintain a clear separation between its role and that of government • Fragmented decisions and short-term demands may jeopardize urban planning and long-term projects • The coercion to participation should not be legitimized as a rule in a participatory process resting on democracy and positioned against inequalities, as happens in some cases • Volatility of PB may involve setbacks in the
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	<p>modernization of public administration</p> <ul style="list-style-type: none"> • PB sustainability is dependent on political commitment to PB. Processes tend to die when political parties not committed win elections, especially in those cases where civil society is weaker; this is why PB requires a strong commitment of both a willing political society and a robust civil society.
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Adapted from Sousa (2001) and enriched with subsequent literature review used in this chapter.

3.4. Diffusion of PB Worldwide: Trends and Families

Soon after its initial implementation in Porto Alegre, the new idea of participatory budgeting (PB) gained international projection, with a range of international development agencies promoting it, being replicated from small towns to mega-cities.

A major topic dealt with by PB literature is its coverage of a wide range of experiences, a variety of local participatory devices for participatory governance worldwide, through which citizens sphere may deliberate and decide on, or influence, how to define the investment priorities for a specific slice of budget of a given municipality. Direct participation and budgetary policies are the two major ingredients of this process, but each PB process is recognizable by a precise origin, history, features and results to which we must pay close attention.

Since its earliest experiences, PB became widely recognized for its resilience and flexibility. Since then, many different kinds of participatory approaches have been developed and implemented as PB, thus highlighting the centrality of context in accounting for the features of these approaches. PB has been constantly reshaped and adapted in the different regions and countries of the world. Therefore, the shape and the outcomes of PB differ according to the cultural and sociopolitical context in which it is developed (Stortone, 2010).

The boost to participation through PB mechanisms depends on important networks that played a major role in the dissemination of the process in Latin America (and beyond) in 1997/2010, such as the Urban Management Program of the United Nations in Latin America and in the Caribbean (PGU-ALC) (Sintomer *et al.*, 2013). The World Social Forum also played a determinant role in spreading PB experience (Fox, 2007; Albert, 2010). In addition, one should mention the role played by international or multilateral organizations (Dias, 2014a), such as the World Bank, despite the ongoing controversies over the role played by the World Bank in the globalization of the PB process (Goldfrank, 2012).

The literature on the topic allows us to identify different phases in the spreading of PB (Cabannes & Baierle, 2004; Dias, 2014b). The first phase (1989-1997) corresponds to the initial period of the dissemination of PB in Brazil and in South America, namely in Montevideo, the capital city of Uruguay. A second phase (1997-2000) is associated with the expansion within Brazil, when about 140 municipalities implemented the process, despite significant variations in its enactment. One-third phase started in 2000, with the expansion of PB experiments outside Brazil and a broad diversification, which has been described as the ‘return of the caravels’ (Allegretti & Herzberg, 2004). At that time, “there is hardly an organization or territorial entity which would not subscribe to the virtues of greater civic engagement, at least verbally” (Sintomer *et al.*, 2014: 28). This is the phase when the local resilience of the process became particularly evident, namely in Latin America and Europe, even if Porto Alegre still stood as the main reference and model. The fourth phase (2007-2008) witnessed the emergence of both a national and international PB networks. One last – and currently ongoing – phase corresponds to the ‘upscaling’ of PB initiatives and their integration into larger and more complex systems of citizen participation. This phase corresponds to the recognition of both the potential and the limits of PB as a participatory procedure. While the first phases confirmed PB as a central device for participation, the ensuing phases brought up a number of problems and allowed the identification of limits to the procedure, namely the cross-cutting issue of the under-representation of some social groups in the PB processes. The latter issue has since then steered the debate and experiments with the creation of alternative spaces and channels of participation.

Another part of the literature on the topic is concerned with the comparative assessment of experiences around the world, which raises some relevant questions. Generally speaking, PB can be credited with three main sorts of achievements: promoting social transformation by broadening citizens' rights and opening up spaces for decision-making expanding citizen involvement; creating innovative democratic institutions beyond the limits of representative democracy; becoming a new process for the design, implementation and monitoring of budgetary policy (Wampler, 2003). The point is that not all of these results are achieved by all PB processes in the same way. In fact, although participatory democracy, social transformation and the invention of radical democratic forms of politics were strongly linked to the original PB experiences, the diffusion of PB followed heterogeneous paths in designs, practices and impacts.

Despite the original impetus of PB associated with participatory democracy and an innovative conception of citizen engagement in decision making, a significant number of currently existing experiments in PB worldwide seem to have been reassembled mainly as technologies for managing

budgets. As Carole Pateman (2012) recently emphasized, there is a distinction between a PB as a major step in democratizing democracy and many of the various experiments in citizen participation or consultation now called Participatory Budgeting.

The transfer of participatory budgeting from Brazil to Europe indeed has been a highly differentiated model (Stortone, 2010), a fact that continues to feed specific analysis focused on the specificities of the process in different regions of the world (Sintomer *et al.*, 2008, 2013; Dias, 2014a).

PB may represent both a top-down and/or a bottom-up participatory decision-making process, since it is dependent on who takes the initiative, namely civil society or the government. In this context, it may display a deficit of deliberation if it is devoted to implementing decisions that have already been taken. In this particular context, Giovanni Allegretti (2014) calls our attention to a very relevant question: based on Ibarra's (2007) conception of participation – 'by invitation' (top-down) or 'by irruption' (bottom-up) –, he stresses that the latter is usually criminalized, while participation 'by invitation' meets with a more differentiated set of reactions, a central question requiring further research.

The level of institutionalization of PB is another major concern to be found in the reviewed literature, a question linked to the relevant legal framework (Cabannes & Lipietz, 2015). Some processes are set up by particular, elected governments, thus depending on the latter's political will to enact the procedure, while some others are favoured by laws that rule its application, as it is the case of the region of Poitou-Charentes in France, South Kivu Province, in Congo, or national laws that establish PB as mandatory for municipalities, as is the case in Peru, Ecuador, the Dominican Republic and Poland (Allegretti, 2014; Dias, 2014; Oliveira, 2014).

Drawing on these considerably different developments and adaptations of the original Brazilian experience as it spread to other parts of the world, Sintomer and colleagues (Sintomer *et al.*, 2008, 2013) proposed a systematic framework of citizen participation based on a typology including six models: I) Participatory Democracy, characterized by the 'fourth power' and a 'countervailing power', based on the empowerment of the people and the promotion of cooperative conflict resolution; II) Proximity Democracy, devoted to increasing communication between citizens, public administrations and local authorities, but based on a 'selective listening', with decision-makers cherry-picking citizens' ideas; III) Participatory modernization, a model where participation is only one aspect in New Public Management strategies, aiming at increasing the legitimacy of public policies in a context where the State is trying to become more efficient and legitimate; IV) Multi-stakeholder participation, corresponding to a top-down approach that does not enable a cooperative countervailing power to emerge; V) Neo-corporatism, also a top-down model, with local government playing a strong role,

since it is surrounded by organized groups (NGOs, trade unions, and employers' associations), social groups (the elderly, immigrant groups and so on) and various local institutions, a model that excludes non-organized citizens; VI) Community development, a model in which participation includes the phase of project implementation, with fairly clear procedural rules and a relatively high quality of deliberation.

This typology reveals, above all, that the original PB model, started up in Porto Alegre, has been transformed over time into diverse participatory possibilities, with different consequences on democracy and on people's lives. Within this story, Ganuza and Baiocchi (2014) draw attention to the PB's double journey, which has fostered the construction of the successful idea of participation beyond particular contexts and the policies under which it could be implemented. In fact, much of the literature on PB goes back to Porto Alegre. The symbolic association with this particular location provided a benchmark for claiming the authenticity of a political model travelling under a pragmatic credibility license that cannot be underestimated (Peck & Theodore, *quoted in* Ganuza & Baiocchi, 2010).

The complexity of the story of PB is made apparent by the claim made by some authors and actors that in its trajectory and spread PB lost its soul (Baierle, 2007), while others suggest that the same path may be read as the emergence and spread of a social and political movement (Dias, 2014b). Building on the latter position, a growing amount of literature is now focusing on the particular relationship between PB as collective action (Levin & Nierras, 2007; Albert, 2010; Stortone, 2010), or, more specifically, on PB as a social movement, stressing the dimension of conflict within the process. Some analyses conclude that, in fact, PB may involve a call to mobilization, in some cases a strongly politicized one, but keeping in mind that PB remains a program of government, which encourages participation, to be sure, but limited by the authority and resources of government (Albert, 2010).

Today, the PB process is not the same as it was when it was launched in Brazil, and it couldn't be, since democracy itself, throughout its history, has always been contested, criticized and reinvented. Across the particular history of PB, a trend towards the hybridization of the process was recently identified and characterized (Sintomer *et al.*, 2013). The perception is now that PB turned into a less complex and radical process when compared to its original model of Porto Alegre. PB is now often articulated with other participatory practices as well as combined with community development structures. This hybridization involves as well the introduction of concerns with gender equality into the process and, more recently, the use of new technologies, encouraging more interactivity through the use of ICTs, which plays a complementary role to face-to-face participation within PB, a change which deserves further study.

3.5. The evolution of technology in participatory budgeting processes

As discussed by Allegretti, Matias and Schettini (2007), Sampaio (2010), and Spada and Allegretti (2012), the early experimentations of ICTs in PB processes were ineffective due to the mistrust of the organizers of these processes that privileged face-to-face interactions, prematurity in the technology and another number of path dependent issues. However in the last decade most of these issue have been overcome and a number of best practices of hybrid participatory budgeting have emerged.

The reason of such a change originated in the attempt to solve several problems (as redundancy of proposals and narrow-visions of single actors) and respond to criticisms raised by the chaotic spontaneous overlapping of multiple channel of participation in the same territory (and often by a real competition for conquering for audiences). The common denominator of this new approach was the attention given to the coordination of channels and tools created for isolating specific actors, through forms of outreach capable of attracting specific groups of citizens, and stimulating process of gradual fidelization to the participatory process. Even if are still rare to find, cases of cities which articulated PB with other participatory devices, as an engine or a pivot of a larger ‘system’ of democratic innovations (as in the Brazilian city of Canoas), are growing in number, and even transcalar systems of participatory devices which include PB (as happened with Kerala in India, Lazio Region in Italy or Poitou Charentes in France) are emerging at different latitudes.

The highest difficulty in ‘straighten’ and ‘readdressing’ the initially tense relation between PB and ICTs came from the fact that many ICT tools in the last two decades have been often used in public policies to support the shrinking of welfare state and an optimization of cost-recovery capacities of the public sector (as is the case of several orthodox tools of New Public Management), while PB never lost the strong link with its original ‘imaginary’, so with perspectives of empowerment of citizens and vulnerable social groups. The need to challenge such a gap of perspectives brought to a slow process for ‘redeeming the origins’ of both PB and ICTs (especially thinking about the sociocultural milieu which allowed the first spreading of Internet: see Cardon, 2010) in order to find a stronger core feature for strengthening their dialogue based on elements devote to amplify their ‘emancipation potential’. Such a shift needed the adoption of a perspective where ‘digital-era governance’ (as in Dunleavy et al, 2005)¹¹ is seen as a paradigm ontologically different from that which generated New Public Management blueprints.

¹¹ See DUNLEAVY, P.; MARGETTS, H.; BASTOW, S.; TINKLER, J. (2005), “New Public Management Is Dead—Long Live Digital-Era Governance”, in *Journal of Public Administration Research and Theory*, Volume 16, Issue 3, pp. 467-494

The first successful introduction of e-PB was implemented in Belo Horizonte (Brazil) in 2006, when a digital PB was added as a third pillar of this particular process. This new window was soon internationally recognized as a good practice, inspiring many other cases that adopted this new channel of participation, albeit adapted to different contexts and circumstances (Peixoto, 2008; Cabannes & Lipietz, 2015).

Today, different uses of digital technologies in PB are spread worldwide: 1) to collect proposals for PB; 2) for engagement and mobilization; 3) for didactic and playful goals, namely a pedagogic role, especially with the younger generation, who feel more attracted by them; 4) for discussion and interaction among citizens; 5) for remote voting via web or SMS; 6) for online monitoring; 7) for online overview of PB development (Sintomer *et al.* 2013). E-participation, which emerged as a way out of problems with efficiency and sustainability, has become a key element of the process.

One of the main opportunities of ICT is fostering e-dialogue and e-participation in deliberation (Gaventa, 2006)¹². This new frame of participation represents not only a clear strategy to increase citizen involvement in the process and to modernize PB through the use of ICTs (Stortone & De Cindio, 2014, 2015), but it also contributes to process sustainability, making it more attractive and cost-efficient (Sintomer *et al.*, 2013), since it reduces participation costs for citizens, as well as organizational costs for institutions. That said the existing technology of e-deliberation is still extremely limited and mostly based on asynchronous text based interactions that are prone to a number of problems that are well known and have generated a vast literature. Problems such as strong group polarization (Sunstein, 2006; Chen 2013), informational cascades (Hansen, Hendricks, & Rendsvig, 2013), low signal-to-noise ratio (Cotton & Yorke, 2006), information overload (Losee, 1989), scattered content, redundancy, non-collaborativeness (Klein, Cioffi & Malone 2007; Klein, 2012, Klein, Spada & Calabretta, 2012) have been extensively analysed since the emergence of the first Bulletin Board System more than thirty years ago. Only very recently, drawing on insights from the theory and practice of deliberative democracy, collective intelligence and informal logic, scholars and practitioners have begun to design and experiment with online platforms that aim to solve these problems, often promoting traits and behaviours associated with intellectually humble dialogue and high quality deliberation (Iandoli *et al.*, 2017). To our knowledge no e-PB platform to date has experimented with these new approaches, EMPATIA will be the first one as we will see in chapter 6.3.4.

¹² Other references in De Cindio, 2012; De Cindio & Schuler, 2012; Davies & Gangadharan, 2009; Wenger, White & Smith, 2009, Foth, 2011.

E-participation represents also a strategy to promote more inclusiveness in the process, especially of those young people who do not participate in the PB and of members of the upper social classes (Cunha *et al.*, 2010). ICTs can also encourage the participation of those who would never participate in other ways, the internet-only participants as identified by Spada *et al.* (2016). However the introduction of these new publics in PB processes need to be carefully balanced at the risk of losing legitimacy. Often internet-only participants are more privileged than face-to-face participants due to digital divide and this difference might undermine the overall legitimacy of PB as in the famous case of Recife described by various authors (*e.g.* Spada & Allegretti 2014).

The introduction of digital tools in democratic innovations has also generated a renovated attention on behavioural incentive structures that can easily be added in these choice architecture, these incentive systems are often described as gamified systems and have been rarely used in PB processes. The EMPATIA consortium is dedicating a specific task force to the analysis of the pros and cons of gamification and more in general of serious games to democratic innovation. The first concrete result of this work is Empaville, a gamified multi user experience described in section 4.3.

Lastly security is a crucial debate that is underdeveloped in the literature. The majority of Participatory Budgeting that employ digital voting are not secure, in the best case they employ very basic dual authentication based on providing a telephone number. Only in countries in which a secure digital ID exists the online voting mechanism of PB, and any other similar democratic innovation, is slightly more secure. The debate on the security of e-voting is beyond the scope of this document, but a clear solution of problems such over the shoulder attacks, just to name one, does not really exist. There is a reason why we have secret in person ballot in most democracies and why most existing reports on e-voting conclude that it is not safe enough to defend from a determined interest group (Spada *et al.*, 2016).

PB must continually enhance its technological toolset without abandoning the democratic radicalism that originally characterized PB (Dutra, 2014). The deepening of the radicalism of PB process, as already mentioned, is a political and cultural challenge for which no magic solution exists, especially in the short-term. Only a constant and pragmatic experimentation with new tools under a diverse set of conditions and applications can continually update democratic innovations and bring us to better understand what works, when and where. In this sense the EMPATIA project is not only a specific set of interventions and a digital platform, but also a blueprint for a pragmatic optimization agenda that can be adapted to any democratic innovation and any new technology.

3.6. Pilots

This section of chapter three briefly introduces the four cases in the overall architecture of the EMPATIA project, WP 1.3 presents more details about each case ethical and socio economic background, while WP 3.1 presents more details on the preliminary design of each democratic innovation in each case.

3.6.1. The evolution of the EMPATIA pilots

The original line-up of cases included Bonn in Germany, Říčany in Czech Republic and Lisbon in Portugal. The three case locations were selected in order to compare very different environments and very different applications of the EMPATIA platform. As detailed in our original proposal (see page 18, pilot description), each pilot was chosen with a very specific testing scenario in mind and was mostly focused on evolving the participatory budgeting process. In Germany a country that has mostly experienced consultative digital participatory budgeting processes the pilot was primarily designed to explore how to integrate a face-to-face channel of participation and a more empowered process, in Portugal that has a very different tradition of mostly face-to-face processes, the pilot focused strengthening the ICT component, while in the Czech Republic that has practically no experience with participatory budgeting the pilot was supposed to explore a full solution.

The EMPATIA project was designed from the start as an agile and adaptable project due to the fact that local conditions can change rapidly. And in fact the political leadership in Bonn made the project unfeasible. EMPATIA consortium was designed to be adaptable to changes, having selected national partners that work on multiple participatory budgeting processes, and thus the pilot in Bonn was quickly substituted with a pilot in Wuppertal.

Additionally, the political situation in Říčany and Lisbon also affected the original plan for such pilots. A detailed description of these changes can be found in D3.1. In summary the city of Říčany chose for a minimal implementation of EMPATIA that could be integrated with their existing citizen panel. Říčany has an online community of citizens that is recurrently consulted on local issues, and the city chose to give prominence to this existing technology while limiting the EMPATIA implementation to an ancillary ideation and information website. Lastly, Lisbon opted for adopting EMPATIA as a full integrator of all the existing participatory technologies providing a unified login and also adding to this architecture a new continuous ideation platform.

At the same time two new opportunities emerged during the course of 2016. During the summer EMPATIA was invited to support just the digital voting phase in a small Portuguese city, Condeixa.

Thus in the fall of 2016 we beta tested the voting module of EMPATIA. The city of Condeixa is now interested in designing with the consortium the next cycle of their PB process. Lastly the city of Milan has requested to use the EMPATIA platform in a large PB process that will start next year.

The details of these changes are described at length in D3.1 and are beyond the scope of this report. For this report purposes it is important to highlight how the implementation of participatory technology in the wild is significantly affected by political volatility and the changing desires of city partners. Thus it is fundamental that the EMPATIA project, and similar future projects funded by the EU, anticipate the possibility of such volatility and engage with flexible partners that are capable to enact contingency plans.

One of the key elements that allowed EMPATIA to be so resilient and adapt to the changing local conditions was the multi-method process of requirement gathering that implemented a constant dialogue not only with the pilots site, but also with a number of different actors around the world who are adopting multichannel digital platforms. The next section describes the methodology we employed.

4. Requirements Gathering

This chapter describes the methodology adopted for gathering and developing requirements for the EMPATIA platform, during the first year of the EMPATIA project. Requirements gathered in this first phase of the project will be presented in chapters 5 and 6. The EMPATIA project integrated multiple methods to gather requirements in order to maximize its resilience and agility. Initially, the large body of literature on democratic innovation was analysed at the light of the diverse experience of the EMPATIA team. From this initial work a preliminary set of requirements was generated. These requirements were then discussed in each pilot with local institution representatives, citizens, and representatives of NGOs. At the same time EMPATIA deployed multiple user experiences in conferences and public debates around the world that gathered experts of the field. This initial set of user experiences (UX) was focused on the voting multi-channel platform, data visualization of the results of the vote, and ethical challenges of data visualization. The feedback gathered via the UX was instrumental in allowing EMPATIA to quickly deploy the voting tool in the unplanned Condeixa pilot (See D3.1 for more details). Lastly, EMPATIA leveraged the significant assets of its research board to gather additional feedback. All these processes are ongoing, thus the current report describes a snapshot of the requirements developed mid project.

4.1. A multimethod approach

The main objective of this deliverable is to generate a set of guidelines and instructions that should give impulse and steer the activity of two core Working Package of EMPATIA:

- (→ WP2) technical guidelines for the development of the digital platform and tools that will support the implementation of multi-channel participatory budgeting processes
- (→ WP3) operational guidelines for the design of the pilots that will be delivered in the coming 2 years in Lisbon (Portugal), Bonn (Germany) and Ričany (CZ)

More details regarding the interaction between this document and other future activities and deliverables are contained in Figure 1 (p.14).

Following a system engineering approach, we specify these guidelines as functional and non-functional requirements, where functional requirements describe what a platform/tool is supposed to do, and non-functional describe how it is supposed to work. Functional requirements are usually in the form of "system shall do <requirement>", for example the EMPATIA platform should send an email to every user that performs the registration, non-functional requirements, instead, are in the

form of "system shall be <requirement>", continuing the previous example a non-functional requirement could dictate that the system is highly responsive and such email must be sent in under two seconds.

Adapting this approach from the ICT environment to the EMPATIA institutional design environment implies integrating multiple source of knowledge in a dialogic process that defines an initial set of requirements, tests them, review them and updates them. We can divide these source of knowledge in three different families.

Theoretical knowledge regarding Democratic Deepening

There is a vast literature on the norms and contours of democratic theory, and what does it mean to deepen democracy. This includes minimal conceptions of democracy to more robust roles for citizens to participate, such as in deliberative and participatory democracy (see Fung 2007, pp. 448- 450.) However since early 2000s, many authors have begun to propose a syncretic approach that, instead of focusing on just one of the various theories of democracy, combines them. These meta-theories identify principles, functions and ‘democratic goods’ that are consistent with multiple democratic traditions.

For example Saward (2003) describes four principles, political equality, inclusion, expressive freedom and transparency. Mansbridge (2012), instead, identifies three functions: the epistemic, ethical, and democratic. Graham Smith’s conceptualization of democratic goods is particularly useful for analysing democratic innovations, such as civic technology (Smith, 2009). Smith identifies four democratic goods — inclusiveness, popular control, considered judgment, transparency — as well as two institutional goods — efficiency and transferability. EMPATIA has adopted Smith’s approach to assess different civic tech applications and draw non-functional requirement for each democratic innovation system.

But it is important to notice, as all these authors of meta-theories do, that these lists of principles are not exhaustive and can be compared to a toolkit of imperfect metrics that capture different correlated characteristics of the same phenomena.

The first democratic good introduced by Smith is inclusiveness, which requires even participation from all segments of society to promote equality. It requires the inclusion of all types of people – a critical condition for an informed, contested environment. Inclusiveness requires processes that create effective incentives for participation, for people across different social groups with varying prior civic knowledge and awareness.

Second, popular control regards the degree to which citizens have actual power or control over decision-making. In this schema people act “not merely as objects of legislation, as passive subjects to be ruled, but as autonomous agents who take part in the governance of their society, directly or through their representatives” (Gutman & Thompson, 2004).

Third, considered judgment requires thoughtful and reflective judgment (Smith 2009). It is related to epistemic democracy to “produce preferences, opinions, and discussions that are appropriately informed by logic and are the outcome of substantive and meaningful consideration of relevant reasons” (Mansbridge, 2012: 11). Considered judgment enables citizen’s considerations to be discussed, aired, and appropriately weighed (see also Habermas, 1996). It empowers individuals in deliberative settings to conduct rational, good faith discussions to enhance democratic governance. Civic talk, when applied to policy specification and implementation, can make public policies more competent (Freeman, 2002; Richardson, 2002; Cohen, 1989).

Fourth, transparency requires that rules and information are clearly presented to citizens. Through transparency, citizens can effectively weigh and assess the democratic system, which is critical for a well-functioning democracy (Warren, 1999). It includes actively releasing information, such as data, as well as providing policy pressure whereby information induces policy change. The targeted transparency “action cycle,” as developed by Fung, Graham, and Weil (2007), traces how information moves from disclosers to become a part of decision-making routines. Through providing transparency people can actually read and understand information in a new way.

Then Smith describes two institutional goods, efficiency and transferability, i.e. the ability of not wasting scarce resources and the ability of a democratic innovation to be transplanted effectively in another context. Additional institutional goods not discussed by Smith that are particularly interesting when evaluating technological innovations include efficacy and resilience. Efficacy is the capacity to achieve the intended result, while resilience is the ability to resist capture from malicious attacks.

These eight goods help evaluate current civic tech practices along eight axes. As Smith notes, goods do not necessarily reinforce each other, and often the promotion of one good enters in conflict with the promotion of another one. For example, the promotion of considered judgment might reduce efficiency by requiring slower decision-making processes that evaluate all available information.

In order to overcome these conflicts, Fung, building upon Dewey’s (1954 [1927]) pragmatic idea of experimentation, proposes a research agenda that uses experimentation to identify institutions with the best possible combination of democratic goods (see Fung 2007 for discussions). The recent

papers in Systemic Deliberative Democracy propose similar practical criteria to evaluate trade-offs and deepen the overall democratic system (Mansbridge, 2013).

The EMPATIA project was designed exactly as a pragmatic experimentation of different configuration of multichannel democratic innovations. Therefore a lot of attention in the requirement gathering phase was devoted to link requirements to specific democratic goods. A crucial task of this first year was completing the analysis of the social, ethical and legal implications of the technological choices that will steer EMPATIA's technical development (see D 1.3 for details).

Civic Technology Knowledge

The first body of knowledge described above is mostly normative, and offers a set of overall ethical and social goals that the EMPATIA platform has to achieve. These goals are mediated by the technological and institutional solutions adopted by EMPATIA. However these solutions are not 'neutral' and are not established once and for all. These solutions are an ever-changing 'becoming' that involves ideas, people, and objects.

Different solutions generate different democratic goods. Some solutions promote one democratic good, while undermining another. For example introducing digital voting might undermine the inclusiveness of the process as described in various examples in chapter 2 due to digital divide. Thus the body of empirical knowledge at the intersection of computer science and the study of democratic innovations, often referred to as civic technology, has a crucial role to play in identifying the requirements for the EMPATIA platform.

This body of knowledge includes not only the research on possible solutions for coding and software development, but in general the study of practical participatory processes that have introduced ICT solutions.

Civic technology in the broadest sense adopted by the EMPATIA consortium includes both new digital tools specifically designed to promote democratic deepening, and also repurposing of old digital tools (e.g. social media campaigns) with the new objective of deepening democracy. And it also includes face-to-face technology, such as deliberative polls, participatory budgeting, citizens' juries, and hybrid innovations that combine in person and online civic technology. For a repository of the variety of participatory technology, see our partner's website Participedia.¹³

¹³ www.participedia.net

Two crucial activities were conducted in the first year to leverage this knowledge. On one hand the EMPATIA team did a review of existing participatory technologies comparing them with respect their ability to achieve democratic goods such as transparency and inclusion (see D1.3). On the other a constant dialogue between technical and non technical partners informed the creation of a shared language and knowledge that is described in more details in section 5.8.

Territorial Situated Knowledge¹⁴

This body of knowledge is grounded in the territory where pilots are taking place, their socio-political contexts, their participatory traditions, the quality of e-governance mechanisms and the local experience with Democratic Innovations. A detailed analysis of each of these settings can be found in deliverable 1.3, for the purpose of this document we will simply highlight the EMPATIA strategy in choosing the macro setting for each pilot. Germany, Portugal, Italy and the Czech Republic have very different traditions with democratic innovations and thus offer a perfect lab in the field approach to evaluate how different local conditions interact with EMPATIA.

PB in Germany has been closely connected to online participation right from the beginning of the diffusion of Participatory Budgeting in the early 2000s. Today, the large majority of German municipalities with Participatory Budgets (about 100 in number) make intensive use of online platforms on which citizens can submit and discuss their proposals. As almost half of all municipalities with Participatory Budgets in Germany have run a PB process for at least three times, they have collected a good amount of experience with the use of ICT. That said most of these processes are consultative and have no clear feedback for the participants. There is not a clear pre-established amount of money that citizens decide upon and this generates a lack of legitimacy and retention of participants that is well documented in the literature (Nitzsche, Pistoia & Elsässer 2012). However this methodology could potentially allow to discuss projects that go beyond small public interventions.

PB in Portugal instead was mostly based on face-to-face technology, and only recently, has begun introducing hybrid processes. Initially most PB processes were consultative, but these processes did not survive over time (Alves & Allegretti 2012). The new generation of processes is mostly empowered, i.e. the city declares initially a sum of money that will be fully controlled by the process. This landscape has similarity with Germany in terms of diffusion, but it is completely different in terms of institutional design.

¹⁴ We refer here to situated knowledge as a “form of objectivity that accounts for both the agency of the knowledge producer and that of the object of study” (Haraway, 1988), in order to emphasize the importance of the standpoint of the observers in the production of knowledge regarding the territory.

PB in Italy sits somewhat in the middle between Portugal and Germany, with a number of face-to-face only experiences and a growing number of hybrid ones (Stortone & De Cindio 2015). Many of the PB processes remain consultative and cities, apart some exceptions, invest very small amount of funds in PB.

Lastly there are almost no experiences of PB processes in Czech Republic, and thus our third environment is almost at the opposite of the spectrum with respect the first three that are among the countries in Europe with the most PB processes.

Beyond the knowledge generated studying each pilot setting, EMPATIA conducted a census of all participatory process at the Municipal level in Brazil as a pilot process to analyse the diffusion of multichannel processes and digital participatory budgeting. The dataset has been recently completed and on the basis of such experience EMPATIA is working with research board partners, particularly IODP, a network of more than 2000 cities implementing democratic innovations, to conduct a global census to be presented in the IODP conference in Montreal in June 2017. This census is based on a two-step methodology that combines crowdsourcing and case studies. For more details about this activity that will be implemented over the course of next year see section 6.3.5. The results of these mapping processes will inform the diffusion of different multi-channel democratic innovations around the world, and will investigate best practices from which EMPATIA will create additional use case scenarios.

A dialogic approach to knowledge integration

The integration of these three bodies of knowledge during the first year was conducted in a dialogic fashion across partners. Before the pilot processes begun, the EMPATIA consortium was already discussing requirements on the basis of the vast knowledge of each partner and generating the first five-use case scenarios described in the next section. After such initial phase that was mostly theoretical, negotiation at the local level between partners and local institutions became more intense on the basis of such use case scenarios. The results of these discussions with bureaucrats and city experts of participation was a definition of the requirements in each pilot that is described in detail in D3.1. In what follows we describe in detail what occurred before the actual negotiation with each city and we also present what will happen after. EMPATIA adapting the agile approach to an institutional design project will continue to iterate its use cases and thus the pilots are seen as an intermediate step of refinement.

This dialogic process has enabled a multidisciplinary environment where these three mechanisms of knowledge production and dissemination cross-fertilized each other and generated a consistent body of knowledge able to provide three corresponding outcomes:

- Increase the academic literature and knowledge regarding DIs and PB, in particular by providing new theories and hypothesis centred on the concept of multi-channel participation and its possible uses in social research. EMPATIA is also supposed to apply its theoretical framework to study the pilots and potentially other situated case-studies (see D4.1 for more details on the impact evaluation plan and D5.3 for details regarding the academic and non academic publication plan).
- Develop and implement a platform and other ICT tools for PB management able to meet the actual needs of the pilots contexts and in general of those who are seeking new solutions of managing Democratic Innovations as PB. In addition, the technological outcomes must be able to collect data from pilots and field experiences necessary to test the hypothesis already built in theory. At the same time, ICT outcomes have to be formally and substantially consistent with the vision and value of EMPATIA, aimed at democratization, inclusiveness and social justice.
- Expand the knowledge regarding the territory by providing new methods of data collection and analysis and empower local actors engaged in pilots of EMPATIA by providing skills and tools necessary to future sustainability of PB in each context.

Challenges to an integrated approach

A common issue in multidisciplinary projects as EMPATIA regards the risk of misalignment between these three streams of knowledge production and the persistence of path dependencies in each one that limit the expected cross-fertilization (Prieto-Martín, de Marcos, & Martínez, 2011). When it is not adequately managed, such a misalignment leads to negative outcomes, for instance, when the theoretical premises are contradicted by the technological developments or when the ICT tools produced are not actually useful to meet the needs of Pilots and in some case directly not used at all.

Three main groups of challenges have to be faced at this stage and in the future advancements of EMPATIA.

First of all, each mechanism of knowledge production is grounded in its own methodological background, and those backgrounds are not perfectly and easily interoperable:

- Production of theoretical knowledge in social sciences generally follows a deductive process rooted in the analysis of existing literature (as in Chapter 2 and 3 of this report) and in generalizations based on the qualitative and quantitative analysis of case studies (Yin, 2003; Johansson, 2003). In our particular case, we could define our approach as loose deduction (Emigh, 1997), an approach where we define theoretically the initial research hypothesis, but still keeping it open to re-thinking and redesigning according to the feedback received from field research.
- Technical knowledge generally relies on a positive model of science, based on grounded theory (Glaser & Strauss, 1967; Charmaz, 2006). Knowledge is produced through an inductive approach that systematically tests possible solutions, analyses results and data, and consequently provides explanatory theories.
- Finally, the production of situated and territorial knowledge relies on a complex set of mechanisms characterized by a reflexive perspective. Here, the point of view of the subjects providers of information regarding the territory has to be considered as an integrated component of the situation observed (Karvonen & van Heur, 2014). Knowledge is produced in the interaction between subject and local context through its different stages of “intervention, process activation, structuration and reconstruction” (Burawoy et al., 1998).

Second, there is an issue regarding authorship, quite common in social research: it is to highlight how just partially these kinds of knowledge are directly produced and managed by the partners of the consortium. Indeed, for each dimension, an additional range of actors have been interacting in knowledge production and circulation and will continue to do all along the project, modifying continuously the scenarios. For example it is easy to imagine situated territorial knowledge as the outcome of a collective process that will involve local actors: citizens, politicians and technical bodies of the entities engaged in the pilots. Differently the scale where theoretical and technical knowledge are cross-fertilized is larger, involving for example segments of the academic community and/or groups of civic hacktivists and code developers at international level. Theoretical knowledge is produced collectively as well as territorial and technical knowledge are: a dynamic and mutable picture destined to be transformed along the same timeframe of EMPATIA when external innovations (in the academic environment, in the ICT domain or simply taking place in the contexts of pilots implementation) will surely take place. In addition, it is to remark as, even if collective intelligences contribute to the development of the body of knowledge that underlie EMPATIA, these collectives do not pertain to the same domain and not necessarily do move in the same direction and at the same pace, making the overall cadre even more complex and dynamic.

Third, the formal timeline of EMPATIA requires each mechanism of knowledge production not only to interact with the other, but also to produce a certain number of deliverable and outcomes according to the calendar planned in the original proposal. The schedule of EMPATIA was planned already considering the time required for multidisciplinary integration. Nevertheless, the strict timeline of the project (2 years) as well as the number of external variables encountered in the actual implementation can transform those deadlines in obstacles excessively rigid.

Adapting the ‘Agile’ software development approach to institutional design

Given the extreme variability of local conditions that are the norm in the field of democratic innovations, the EMPATIA consortium adopted a methodology for requirements gathering loosely inspired by the Agile Methodology (Manifesto for Agile Software Development, 2016). This methodology is almost a standard in modern software development, but it is completely unknown to institutional design approaches. The pilots of EMPATIA effectively are going to build a new political institution in each city, or are going to significantly alter existing institutions integrating them. That is why it is important to keep in mind that the platform is just a minor aspect of the pilot, and the crucial element that will decree the pilot success is how the platform is implemented in an overall institutional design. We decided to adapt the Agile methodology in order to be more responsive to volatile local conditions and generate a meaningful dialogue with our partner cities.

The agile methodology refers to a set of principles that have been developed by a group of ICT experts and coders more than 15 years ago (although it is rooted back in the 80s), as an attempt to overcome the limits of sequential and procedural approaches to software development.

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

From these principles, a range of innovative methods has spread out. Agile approach encourages multidisciplinary in the team development, and the flexibility required to adapt the strategy to changing contexts. In addition, it promotes the iteration of rapid productive cycles of software delivery aimed to obtain a continuous feedback from users and clients.

Accordingly, we translated Agile principles for our purposes as follows:

- **Sharing Knowledge:** Theoretical and practical knowledge related to the use of ICTs in Democratic Innovation is shared between Scientific, Technical and Implementation partners within the consortium and multidisciplinary teams work together for the core deliverable of EMPATIA. We implemented not only recurrent face-to-face meetings, but also weekly Skype calls.
- **Fast release of Beta versions for testing purposes:** As soon as priorities are defined, we will proceed with coding and release for immediate testing in real-life setting. After each release, priorities are analysed and reviewed according to the feedback received. The Empaville user experience platform described in section 3 of this chapter was developed exactly for such purposes.
- **Engage Users and Managers in continuous feedback:** From the initial interviews used to create the Use Case Scenario until the phase of pilots' implementation, passing through focus groups, simulations, beta-testing occasion, we aim to engage citizens, civil servants and decision makers of Democratic Innovations in providing a continuous feedback able to re-calibrate the development accordingly. EMPATIA by design gave a crucial role to process managers in cities and partners that are the core users of the EMPATIA's back office and installation suite. Thus one of the key uniqueness of the EMPATIA platform is that this constant dialogue has generated a back-office interface that can be easily used by these actors without learning a single line of code.
- **A flexible strategy based on the continuous analysis of the field:** From the development of initial Use Case Scenario, to pilots implementation, until spread-out dissemination, the team of EMPATIA will coordinate its development strategy keeping one eye on the timing of the proposal and the other on the actual context of its implementation. We will be careful and ready to adapt to changes occurred in each one of the three scientific dimensions engaged - as for example in the academic environment of social sciences an innovative theory regarding Democratic Innovations research, in the ICT world a new unforeseen technical solution provided by some competitors, in the context of pilots implementation a social or political transformation.

4.2. Case-Oriented Requirements Gathering

The EMPATIA project begun by collecting use case scenarios developed by the partners of the Consortium. These cases represent a non-functional description of possible uses of the platform in

realistic scenarios they have encountered in their work implementing democratic innovations. Starting from these use case scenarios, we ‘extracted’ the description of a preliminary list of functional requirements regarding what EMPATIA is supposed to do at the highest precision currently possible. The gathering of requirement for this document has been delivered by experts in DIs management and just partially involved other potential final users of the platform: as a consequence, at the moment, it is still overexposing the point of view of DI experts (the partners) that pictured themselves as potential EMPATIA’s managers. Further steps of refinement of functional requirements will be delivered in the coming months, also through direct engagement of citizens, civil servants and policy makers that will be the actual users of EMPATIA. In practice this latter set of testing will develop a wizard mechanism that will allow also a non-expert citizens or bureaucrats to quickly deploy a democratic innovation without having to go through a large amount of tweaking. Thus our final back office aims to retain the flexibility for super users that want to innovate and require an extreme level of customization, such as our own partners, while at the same time providing a template and a wizard that would allow anybody to design a participatory budgeting process quickly.

The process of requirement gathering followed five main steps that are reported in detail in the following two chapters 5 and 6.

I Development of Use Case Scenarios

Five Use Case Scenarios regarding possible uses of EMPATIA tools and methodologies were developed, starting from a common matrix that helped to keep a standard format for the exposition. The development of use case scenarios was based in the analysis of convergences and divergences between the original theoretical model of PB presented in EMPATIA proposal and foreseeable hypothesis of PB implementations.

II Analysis of the non-functional requirements described in Use Case Scenarios

- Detailed analysis of the main insights from Use Case Scenarios. Relevant and/or recurrent issues, priorities highlighted by the partners.
- Standardization of the analytical framework of Scenarios, according to the conceptual framework provided by EMPATIA, to inform the research on multi-channel participation (Phases of PB)

III De-Synchronization of Phases into Actions

De-structuration of the synchronous Phases of PB into asynchronous Actions that will represent the basis for the development of the digital tools in EMPATIA, according to the conceptual framework provided by EMPATIA to the research on multi-channel participation.

IV Development of Tools/Component of EMPATIA and description of functional requirements

- Analysis of the channels of participation used in the use case scenarios, distinguishing between online and in person alternatives for channel management.
- Development of possible ICT tools to support/deliver the actions of PB previously listed. Each tool is associated to an action.
- First attempt to describe the main requirements of each tool:
 - Description of Main Features
 - Examples (Links to existing tools/platforms)
 - Non Functional Requirements for Users and Managers of the platform/tool

V Primary Requirements

Identification of primary requirements in each use case on the basis of a trade-off between what can be achieved in the short period of the project and the most important requirement to promote democratic goods.

4.3. Gamified multiusers experience: Empaville

Parallel to this primary process of requirement gathering and analysis, the EMPATIA consortium also quickly developed a roleplaying game that could be used to gather feedback on early iterations of the unified login, voting and data visualization modules of EMPATIA. These three modules were identified as the minimum common denominator across all use cases that included participatory decision-making.

The target personas for this gamified experience were groups of specialists and practitioners that deploy democratic innovations around the world. In order to quickly find this public, at zero cost, the EMPATIA consortium promoted specialists' conferences.

The first session of EMPAVILLE, EMPATIA multiusers experience (MUX), was held on the 22nd of May 2016, at the 4th international conference on participatory budgeting in North America (Boston). The audience, composed by 25 participants within different backgrounds and nationalities, embraced the

challenge to enhance citizen deliberation in the policymaking process through a multichannel approach.

Each participant role-played a resident or a worker of Empaville, a fictitious city designed to simulate the typical conflicts of modern metropolis. Empaville is a guided experience that starts with small group discussion over the problem of the city, followed by project proposal and voting. The experience mimics the flow of many democratic innovations such as participatory budgeting or citizens' juries.

The voting phase is conducted via multiple devices, from mobile phones, to laptops to voting machines that EMPATIA specifically built. Then the data is gathered and analysed by the EMPATIA platform, Empaville is a live instance of EMPATIA, and a suite of data visualizations is displayed via a projector.

The game is an evolution of a game that was developed and refined over the course of sixteen years by Giovanni Allegretti and later by the UK PB Unit one of the members of our research board. The game is designed to generate conflict within districts and across districts and showcase how a participatory process deals with such conflicts.

EMPATIA took the model and transformed it in a user experience of a hybrid participatory budgeting with a particular focus on login, voting and data visualization. The logic of injecting conflict and difficulties was expanded to the technological aspect introducing lessons regarding the biasing effects of different voting mechanisms (e.g. what happens when negative voting is introduced?), the difficulty of casting digital votes and crucial lessons regarding the risk of transparency and data visualization when dealing with small samples of users. Many of our test subjects had never casted a vote before via a digital medium, and experiencing the difficulty of reviewing many projects and casting a vote was an eye opening experience that made them reflect on digital divide.

To date Empaville has been deployed more than 8 times with different publics in different conferences around the world (for details see D5.3).

This workshop allowed the participants and the EMPATIA team to foresee some limitations, challenges and amendments to the platform design that were pointed out during the game as well as through the evaluation questionnaires. The survey respondents highlighted the usefulness of Empaville as a learning tool that allowed them to test the use of technology in a realistic scenario of participatory budgeting. The majority of participants argued that it is safer to have these experiments as a game to test all the fragilities that should be avoided in the real situations. Through the slogan "learning by failing" EMPAVILLE shows an astonishing potentiality not only as modular UX platform,

but also as a learning experience, recognizing that failures, conflict and difficulties often offer the best lessons.

Empaville is currently being developed as a teaching tool for middle school students in Portugal, and the EMPATIA consortium is currently exploring new scenarios and new modules to be included in the UX. Some of the current ideas that we hope to have the time and resources to implement during the rest of the EMPATIA project are including A/B testing of different small group management technologies (similar to the design pioneered by Spada & Vreeland, 2013), different voting mechanisms, and different incentive structures for project proposals.

4.4. Mapping additional use cases in collaboration with IODP

As we have seen in chapter two the EMPATIA research consortium has created an initial list of theorized advantages and disadvantages of multichannel engagement. In order to test properly such advantage and disadvantages a set of cases that is larger than our own four pilots is required. Thus the EMPATIA consortium has partnered up with IODP to conduct an innovative survey of research design that will combine crowdsourced mapping with experts' interview, to better understand the relevance of the initial hypotheses generated by EMPATIA. The objective of the proposed research project in collaboration with OIDP is to test and revise these hypotheses, by comparing with the experiences of cities that have adopted multichannel engagement platforms.

Opportunities of multichannel engagement:

- Increased number of participants: the multiplication of channels of engagement, together with the adoption of ICT tools multiplies the opportunities for citizens to participate and lowers the cost of participation increasing the overall engagement.
- Increased diversity of participants: the multiplication of channels of engagement, together with the adoption of ICT tools promotes the inclusion of new publics thanks to the flexibility of ICT vs. the rigid time constraint of off-line participation.
- New epistemic possibilities: the integration of multiple sources of information, including public and community open datasets, can provide a more detailed and accessible base of information to support the public deliberation, increase transparency and promote accountability.
- Increased efficiency: the possibility to integrate multiple engagement processes can reduce the cost of management of city engagement.
- Increased transferability: the adoption of ICT tools that are standardized and free increases the replicability and transferability of best practices.

Risks of multichannel engagement:

- Increased risk of conflict: Channels of engagement instead of reinforcing each other might enter in conflict, a typical example is the conflict between on-line participants and off-line participants that has been observed in some hybrid participatory budgeting process.
- Misaligned and scattered choices: Individualized participation through ICT reduces the alignment with complex long-term planning and urban development strategies.
- Vote vs. deliberation: The availability of ICT solutions to collect votes and preferences emphasizes the vote stage of PB against the deliberative component of the process, flattening PB on its quantitative dimension of aggregation of preferences.
- Quantity vs. quality: Multiplying the number of channel of engagement might reduce the quality and impact of each single channel of engagement substituting a few high quality costly channels with many low cost and low quality channels.
- Security issues and deceitful uses: The chance to directly influence public expenditures can generate deceitful or abusive behaviours in PB. ICT vulnerabilities increase this risk.
- Non-interoperability: ICT solutions for PB management have a low level of standardization and a low capacity to interact and exchange data with existing technologies.
- Disengagement due to complexity/cost/malfunction: Sometimes new channels of engagement are so complex or so costly to use or have so many technical problems that they generate protest and reduce the legitimacy of the entire participatory system.

Methodology: drawing lessons from successful and unsuccessful cases

In order to explore the previous hypotheses we aim to combine active and passive data collection methods. On one hand we will establish a working group of cities that are adopting or have adopted multichannel engagement platforms and we will conduct in depth case studies on the members of the working group. Ideally we aim to create a sample of around 20 cities with different sizes in different countries that include cases in which the adoption of multichannel engagement and ICT tools was successful, and cities in which ICT solutions were not successful. We already know for example of some cities in Brazil that have stopped using online voting (e.g. Vitoria da Conquista in the state of Bahia used it in 2013 and then abandoned it) or had significant problems with SMS voting (Santos in the State of Sao Paulo in 2015), we hope to find more problematic case. We aim to have 10 success stories and 10 problematic cases to provide a critical overview of the advantages and disadvantages of these technologies.

On the other hand we will prepare a crowdsourcing tool for the entire OIDP network based on the methodology pioneered by Participedia, but significantly simplified to reduce the cost of submitting information (passive tool). In practice the crowdsourcing tool will be a combination of a very simple

survey (10-15 questions) and a repository of documents. We will invite all the ODP members to fill the questionnaire and upload any relevant document they have already produced that can inform our research. The tool will be initially in English, Portuguese and Spanish, but we hope with the help of the working group to translate it in other languages. The information gathered via the tool will integrate and expand the case studies. An initial draft questionnaire for the crowdsourcing tool can be found in Annex C.

This procedure will generate innovative research regarding the diffusion of different models of multichannel engagement; it will gather experts' opinion regarding successful and unsuccessful cases; it will explore the validity of EMPATIA initial sets of advantages and disadvantages of integrating multiple channels of engagement; and it will nurture a new set of non-functional requirement based on a large variety of real life applications. The research component will begin in January 2017 and is designed to generate a first white paper for the IODP conference in Montreal in June 2017.

4.5. Mapping existing e-democracy tools

During the course of the first year of the EMPATIA project a team coordinated by CES begun mapping commercially available collaborative platforms currently used in the management of DIs in Europe, Latin America, Canada and United States. The analysis focuses on the state of the art and aims to collect additional requirements for the EMPATIA platform. The initial focus was on ethical and data protection standards in order to inform best practices to be adopted in the deployment of EMPATIA. Our cursory overview of existing platform during the development of the project proposal in 2015 had highlighted how most existing platform had unclear informed consent practices and nebulous terms of use. To our surprise some of the existing applications of these platforms did not even comply with national laws of data protection.

Therefore from the beginning of the project we devoted a specific task force to analyse these problems and come up with a set of potential solution. Deliverable 1.3 documents the first year of work of this task force. For the purpose of this document is important to highlight that the our procedure to devise the EMPATIA requirements not only draws from the needs and requests of the local clusters of cities and implementers, but also pushes them beyond the state of the art and the boundary of their imagination by devising innovative solutions such as our proposed advanced informed consent platform that will be described in chapter 6.3.2.

4.6. One to One UX with experts

Since the first version of the EMPATIA platform was ready, we have begun to showcase the potential of its back office tool to a selected group of experts. These included both academics and experienced practitioners. These activities have just started, and they will further developed in year two.

Over the course of the fall of 2016 we have gathered feedback in UX with David Asher, of the technology development team of the Participedia project and former VP of product development of the Mozilla Foundation, Professor Susan Halford and Professor Leslie Carr, Directors of the Web Science Institute at the University of Southampton, and with a number of technology and participation experts that work for the city of Lisbon. In the coming months we will conduct similar UX with stakeholders in each pilot and with additional members of our research board. These UX are one to one experiences in which the test subject is guided through the process of using the back office tool of EMPATIA to develop its own participatory process.

5. EMPATIA Theoretical Use Cases

This chapter presents the use case scenario developed in order to gather preliminary non-functional requirements. We start by complement chapter 4 with the detailed methodology for the development of EMPATIA Use Cases, followed by the use cases description. These use cases are the basis for the requirements work described in the following chapter.

5.1. Methodology

As described in Sub-chapter 0, the use cases are the preliminary step to gather and define the EMPATIA platform requirements. This work is grounded in the analysis of convergences and divergences between the original theoretical model of PB (presented in EMPATIA proposal) and foreseeable hypothesis of PB implementations.

Use case has been developed starting by a common template (cf. Annex B) based on the PB model described at EMPATIA proposal (cf. Annex A). Five detailed use cases were designed, three based on the EMPATIA pilots' context (Germany, Portugal and Czech Republic) and two derived from partners' experience of worldwide PB implementations.

The process defined to develop the use cases was split in four main steps:

1. Use case general description
2. PB cycle
3. PB cycle phases
4. Final notes/recommendations

The first step describes the overall use case providing an outline of the scenario and its main objective and limitations. This description identifies the main features of the use case, focusing on transversal issues that are not specific to a particular phase of the process.

Afterwards, the PB cycle description step, aims to analyse the EMPATIA initial proposed PB cycles and propose the required changes to better represent the use case specific cycles and phases. Step 3 describes all use case phases and compares them to the current state-of-the-art for each phase (based on EMPATIA pilot existing knowledge or previous PB implementation experience). State-of-the-art describes how reference PB are currently carried out, defining when possible, the citizens' engagement channels (i.e. assemblies, focus groups, online forum, mobile phones) and the current

use of ICT. The use case description focus on desirable changes and how EMPATIA platform could transform the current state-of-the-art.

5.2. Use Case 1

This sub-chapter presents EMPATIA Use Case 1 (UC1) developed using as reference the consortium expertise in Germany PB implementations and based on German pilot objectives and focus.

5.2.1. Use case general description

PB in Germany is often performed almost exclusively ICT-based. It is mostly a consultative process without a pre-defined budget. Proposals can openly be submitted by citizens both for spending and for cost-cutting ideas.

In some PB cases (e.g. Bonn), not only the citizens, but also the city administration puts to debate proposals. Citizens can submit proposals online, discuss (via comments) and vote (via pro, con and neutral votes). On-site events are usually only for informative purposes, not for deliberation or voting.

Through voting, a top list of proposals is generated, and these proposals are evaluated by the administration with regards to feasibility of implementation, costs, etc. The proposals and statements from the administration are passed on to the city council for deliberation and final decision.

Feedback to the citizens is given in an accountability report and on the online platform. A monitoring process of the projects implementation rarely exists.

The weakest links in the PB cycle in Germany are the disconnection between proposals gathering, voting and evaluation. This leads to a very high number of proposals, many of them actually not feasible but that still are part of the ‘top list’ of proposals (and will be rejected by the city council at the end, leading to disappointment).

The disconnection between participants in the proposal phase is high. Better support for face-to-face meetings and local communities would improve the process of this use case.

The accountability phase could provide better feedback on the city council decisions and the implementation cycle should be improved, mainly by better communicating the successes cases, the implementation status and the PB impact.

This use case (through EMPATIA) aims at improving the quality of the proposals by:

- Adapting the PB cycle to EMPATIA model, adding face-to-face events and adding additional ICT tools/features like proposals versioning.
- Add multichannel participation by including face-to-face events for proposals submissions and evaluation, and multichannel voting.
- Increase community building support and empowerment of participants to promote their proposals.
- Better support the municipality managing the process by increasing accountability and improving monitoring of internal processes (requires the definition of administration procedures).
- Improve secure authentication of users and avoid fraud.
- Increase support for similar proposals avoidance and ensure more transparency at process overview by citizens.

5.2.2. PB cycle

The UC1 PB cycle is an adapted version of the original EMPATIA PB cycle for a consultative process, as described in Figure 2.

UC1 PB cycle merges the proposal gathering and voting phases. This phase will generate a top ranking proposals list that is then evaluated and decided, by the municipality, which proposals are feasible or not. As a consultative process, the proposals are suggestions for the political representatives decide which ones should move to the implementation phase. As so, the accountability phase is one of the most important phases of the DM cycle. Finally, only proposals that are approved by the Public Budget Approval phase are implemented.

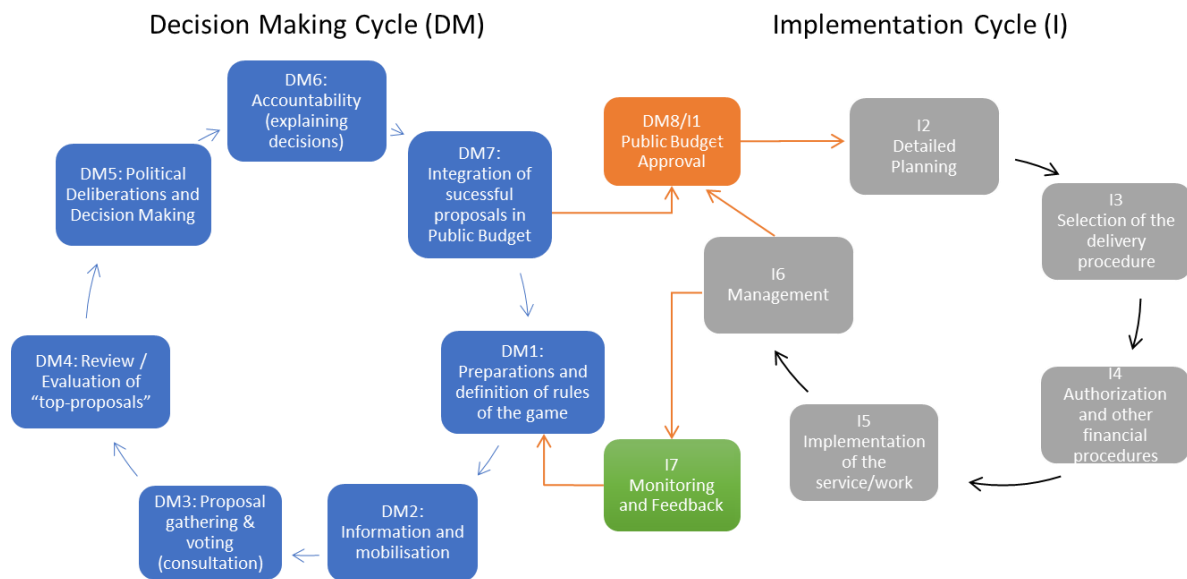


Figure 2 – Use Case 1 PB cycle

5.2.3. PB cycle phases

This use case is composed of the two EMPATIA cycles, the Decision Making and the Implementation cycles. Next we describe the phases that compose this PB cycle.

DM1: Preparations and definition of rules of the game

The project management tools in this early phase will be responsible for the municipal internal communication process and citizens within the steering committee. The tools should support the organization and management of meetings, workshops, documentation share, and message exchange.

State-of-the-art: city council decides to do a PB, administration starts with preparations (often they are supported in the design of the process by external consultants' agency like ZebraLog). Usually at this stage there is no citizens' participation, except in some cases, where a steering committee is formed and includes citizens. ICT is rarely used in this phase; most of the communication is done by e-mail.

DM2: Information and mobilization

In this phase citizens are actively involved both by supporting the information and mobilization of other citizen (individually and through local citizen centres) and by being able to access detailed information of the PB process (including the process rules and budget information) through posters and flyers, but also available online information. In the consultative model it is especially important to show what parts of the budget are actually negotiable and what parts are fixed by law.

State-of-the-art: currently the mobilisation is performed through flyers, posters and press releases, and sometimes cities organize informational assemblies (not very often). ICT is currently supporting the publication of information by usage of an online platform sometimes with open budget visualisations and FAQ features. E-mail is still the main dissemination method to communicate with stakeholders (e.g. initiatives, neighbourhood leaders). Citizens are rarely actively involved in the mobilisation process.

DM3: Proposal gathering and voting

In this phase citizens and the municipality submit proposals to an online platform. At the same time all submitted proposals can be supported (i.e. voted). At the end of this process the most supported proposals pass to the next phase. It should also be allowed to create different versions of one proposal (including by multiple contributors) and be able to visualize the different versions of the proposal. This feature allows proposals to start as ideas and after a collaborative process to finish as complete proposals.

Additionally, this phase will include mechanisms to decrease the number of proposals submitted and increase the quality of the proposals put to support. To achieve these objectives several actions will be taken:

- Advanced proposals presentation and filtering options, and clustering and merging features.
- Integrated multichannel approach that includes the online platform, face-to-face assemblies (after proposals gathering period, to present and discuss them with municipal staff and undertake a first feasibility review), and voting.
- Novel collaboration mechanisms for citizens to develop proposals, connect with each other, and to promote their proposals.

State-of-the-art: Germany proposal gathering and voting mostly happens at the same time (only in some cases the two processes are separated). There are some cases where proposals are first gathered, then evaluated, and finally put to vote, but this is an exception. Mostly there is no face-to-face assembly/meeting to foster participation, and proposal submission and deliberation only occurs online, via postal letter, or via phone call to a hotline number. The voting leads to a ranking of proposals, only the top ranked proposals (number defined by the municipality) are evaluated further. Commenting on proposals is only performed online. Voting on proposals (pro, con, neutral; one vote per proposal per person; in total unlimited number of votes) is only possible online. These processes are based on ICT platforms with proposal submission, commenting, liking and voting features.

DM4: Technical Review

The proposals review process starts after the voting process and allows citizens to interact with municipal staff in order to analyse the feasibility of the proposal. This interaction is performed both through the online platform and through face-to-face assemblies.

Internally, the municipality relies on the online platform to manage the proposals review process by the different municipal departments. The review only concerns the top voted proposals.

State-of-the-art: the review phase is usually done after the voting phase, sometimes it is done parallel and rarely it is done between proposal and voting phase. Most often, a central person within the administration coordinates the feedback. Citizens usually are not actively involved in this phase (just as recipients of information). The municipality staff mostly uses e-mails to manage the process and communicate with the citizens. Usually, the online platform is only used for documentation processes but not for coordination of the review and evaluation process. Often, a municipal team of editors has access to the backend of the platform to register the review feedback.

DM5: Political deliberations and decision making

Public political deliberation meetings are prominently announced. Political representatives are engaged actively in PB, and specifically in proposals analysis and selection.

State-of-the-art: proposals and review statement from the administration are passed into different political committees and finally to the city council. The political representatives deliberate about the proposals and finally decide which proposals are to be implemented. There is no participation of citizens in this phase. They could theoretically go to the public city council meeting, but these are rarely advertised. The ICT platform is updated with the council meetings information and decisions.

DM6: Accountability

The decisions and reasons of the municipal council are made public and properly disseminated among the citizens. The online platform provides an easy way to publish the decisions for each proposal. This process is supported by visualisations and highlights in the PB and municipality main dissemination means. Citizens can easily and quickly have an overview of the accepted and rejected proposals.

State-of-the-art: this phase is extremely important in German PB because not all proposals in the top list will be accepted by the municipal council. Accountability is mostly done with the help of a report in which all proposals are listed, together with the decisions of the council and the reasons for

acceptance and rejection of the top ranked proposals. Some municipalities also publish the decisions on the pages of the proposals on the platform.

DM7/I1: Integration of successful proposals in public budget

This use case was not analysed in the perspective of the implementation and monitoring cycle.

I: Implementation and monitoring cycle

This use case was not analysed in the perspective of the implementation and monitoring cycle.

5.3. Use Case 2

This sub-chapter presents EMPATIA Use Case 2 (UC2) developed using as reference the consortium expertise in Czech Republic PB implementation, and based on Czech Republic pilot objectives and focus.

5.3.1. Use case general description

This use case refers to a municipality implementing a PB process for a first time, in a country with low citizens' participation initiatives. The municipality has not yet allocated funds for the PB. Also dates and conditions for the PB are currently ongoing. The municipality has already performed several participation activities with good outcomes. Previous information and mobilization campaign included: volunteers with information leaflets in the streets, at bus stops and train stations; billboards; city lights; regular info pages in monthly local publications; regular Facebook posts with Mayor personal messages; direct email invitations and reminders.

This use case will focus on creating the PB methodology and assuring that the process is easy and motivating for the citizens. PB objectives and rules will be properly clarified and publicly announced well in advance. Town Hall will train their staff and other PB coordinators/moderators.

5.3.2. PB cycle

UC2 implements the proposed EMPATIA PB (cf. Annex A) cycle with no deviations.

5.3.3. PB cycle phases

This use case is composed of the two EMPATIA cycles, the Decision Making and the Implementation cycles. Next we describe the phases that compose this PB cycle.

DM1: Preliminary enabling actions and definition of the rules of the games

In this phase is important to support the definition of the PB methodology, creating a process that is easy and motivating for the citizens. Other PB implementations should be analysed and taken into consideration to avoid technical difficulties and unnecessary costs. The PB process needs to be clearly explained (specifically the allocated budget details) to citizens.

State-of-the-art: Town Hall allocates budget for the PB.

DM2: Information and ideas brainstorming

In this phase it is required the organization of information meetings, before the process starts, to introduce the PB concept to the public and to provide advice on how to submit proposals. It includes involving associations, sport clubs and organizations; nominating delegates (active citizens, known personalities) as links between the Town Hall and the public.

State-of-the-art: Town Hall uses existing information channels to disseminate PB process information. Mayor organizes meetings with citizens to hear their ideas, suggestions and complaints (however the response usually is very low with no applicable outputs).

DM3: Identification of local needs and gathering of proposal

In this phase it is important to avoid difficulties gathering citizens' proposals. Adequate filtering of the proposals is required to provide users with a limited set of proposals at once. Also for city PB coordinators, a high number of proposals are impossible to process and it is unrealistic to meet submitters expectations of support and feedback. Public meetings can be held, managed by professional teams and supported by tablets to enable online submission of the proposals.

DM4: Analysis and co-design of proposals

Responsible officials in the Town Hall will be advised how to evaluate the submitted proposals; how to distinguished between feasible and not feasible ones; proposals which need partial adjustments and changes; and proposals that could be merged with others. The number of proposals for evaluation should not exceed a defined threshold that will guarantee that the Town Hall officials have enough time to properly analyse and support all proposals. Town Hall should clearly explain and clarify the decision to reject proposals, on the basis of compelling arguments to avoid bias accusations.

DM5: Vote to define priorities

The voting phase should be performed both online and offline (paper ballots). The final number of proposals on the ballot paper should not exceed 25. Citizens' authentication can be performed using

multiple methods (e.g. e-mail, SMS or pre-registration) to minimize the risk of frauds, ballot stuffing and multiple voting. The voting period should be of two or more weeks. Ballot scanners can be used to count ballots votes. Voting analytics with map and socio-demographic data should be provided and made available.

DM6: Integration in public budget

Immediate implementation of the costs for the winning projects into the city budget is required.

DM7/I1: Implementation

Further work developed with the winning projects (planning, work schedule, control mechanisms).

I7: Monitoring and feedback

Open access to all information on PB, submitted and winning projects. Official written justification of why some proposals were rejected. PB coordinator communicating with the citizens all year round.

5.4. Use Case 3

This sub-chapter presents EMPATIA Use Case 3 (UC3) developed using as reference the consortium expertise in Portugal PB implementations and based on Lisbon pilot objectives and focus.

5.4.1. Use case general description

This use case will focus on improving an existing PB process, mainly with respect to the number of proposals for technical analysis. Additionally, it is intended to better integrate the PB process with other participation tools and initiatives.

New and better integrated voting tools are also an important aspect to address in this use case to avoid fraud in multiple voting channels (e.g. online, SMS, face-to-face).

This use case corresponds to the 10th PB process in the municipality and involves a new political and technical team that intends to introduce changes and improvements in their PB process methodology.

In previous editions, citizens could make proposals online and face-to-face in participatory assemblies. Online users introduce their proposal, but in assemblies the municipal staff is responsible for introducing them. The technical analysis is done online in the platform.

5.4.2. PB cycle

UC3 implements the proposed EMPATIA PB (cf. Annex A) cycle with no deviations.

5.4.3. PB cycle phases

This use case is composed of the two EMPATIA cycles, the Decision Making and the Implementation cycles. Next we describe the phases that compose this PB cycle.

DM1: Preliminary enabling actions and definition of the rules of the game

This phase includes the revision of the PB process based on previous experiences and political decisions on the process methodology and rules, including the budget to be allocated. The PB budget will be split in two, one for structural/transversal city projects (total of 1.000.000€, maximum of 500,000€ per proposal), and another for the 5 parishes (total of 1.500.000€, maximum of 300,000€ per proposal, equal budget for each parish of the municipality). Citizens are not included in the participation at this stage.

State-of-the-art: the PB process methodology and rules are reviewed and specified. The budget is allocated. All details are published in the PB platform. Citizens are not included in the participation process at this stage.

DM2: Preliminary enabling actions and definition of the rules of the game

Information is published within the PB portal together with the process history.

State-of-the-art: information is published within the PB portal.

DM3: Identification of local needs and gathering of proposal

In this phase it is required a good articulation between the online and in person process of collecting proposals. The platform should support the delegation of proposal to the operational units in the municipality involved in the PB process

State-of-the-art: Proposals can be submitted online or in person in participatory assemblies. Online proposal submission requires registration in the platform. The proposals submitted via participatory assemblies are manually introduced in the platform by the members of the PB team. There is no debate regarding proposals submitted online. Proposals are verified to check if they comply with the PB rules. The proposals are routed through the platform to the designated department. The department is informed by the platform that it has received a proposal to analyse (by email).

DM4: Analysis and co-design of proposals

To facilitate the analysis process, it is required a platform with different access levels and responsibilities. In the first stage technicians from different municipality departments can run a checklist for each proposal and then be validated by the PB coordination team. It has to promote the

articulation between the municipality and the parishes, and with the proposals proponents (e.g. regarding the proposals, complaints period). Spokesperson (one or more) for each parish should be selected to facilitate and improve the articulation between the municipality and the parishes. The validation of all proposals requires the validation from one spokesperson before PB team analysis. At this phase, only proponents can submit complaints.

State-of-the-art: the first technical analysis is done by the municipality to verify municipality competence, local, time of execution and if there are other plans or projects that affect the proposal. If the analysis is negative the proposal is rejected. If positive, the services check the internal department with competence in the proposal. Then, the parish is informed of the project in order to receive a local validation (the final decision belongs to the municipality). If validated by the municipality the proposal is transformed in a project and similar proposals are aggregated in a single project. The PB team is notified that the project has been elaborated and reviews the texts. The provisional list is published and proponents can submit complaints. After analysis of complaints, the final list of projects is published.

DM5: Vote to select funded projects

A complete integrated voting system (e.g. online, SMS and in person) cross-checks citizens votes and verifies each person votes avoiding fraud.

State-of-the-art: citizens can vote using several channels: online, SMS and in presence. Each citizen has two votes online or in presence, and two votes via SMS, being one vote for each class of projects (parish or structural/transversal projects). Voting support sessions help citizens that do not have access to computer or internet, or are not able to understand the process.

I: Implementation

The platform supports the municipality in the publishing process to proponents, PB participants and all citizens, of the status of PB process, proposals and project in a constant flow of information, including execution details, problems or delays that need to be communicated. It should provide tools to monitor the execution of projects and promote the evaluation of the process by the citizens that participate in the process.

State-of-the-art: the winning projects will be the ones that gather the largest number of votes for each group of projects, until they reach the designated amount of money allocated for each category. The results are announced in a public ceremony after voting period ends and will also be published in the PB portal. The municipality provides regular information regarding the situation of the winning

projects (implementation and execution) through periodic reports that are published and made available in the portal. Citizens are invited to provide their opinion by filling a questionnaire that can be sent by email or via the portal. There is an annual review of the rules and principles of the PB process.

5.5. Use Case 4

This sub-chapter presents EMPATIA Use Case 4 (UC4) developed using as reference the consortium expertise in Italy PB implementations.

5.5.1. Use case general description

In this use case the platform should support multisite, in order to simultaneously support several entities that intend to implement a PB process (e.g. municipality, school, private organization). Beside facilitating the management of several PB processes, it also allows the connection between the different PB processes, allowing enrolled citizens to participate in more than one PB process and interact with other PB process participants, if authorized (e.g. interaction between municipalities and schools PB processes from the same city).

Each entity should be composed by three spaces: Community Space (CS), that goes beyond PB, e.g. idea gathering, aggregation mechanism; Deliberative Space (DS), PB process, according to the PB model, e.g. proposals, supporting system, ranking system; Personal Space (PS), private dashboard, e.g. public profile, timelines.

The DS is related to the PB process: proposals, supports, likes, votes, etc. These tools and features are not exclusive of the DS, since similar ones can be part and used in the CS for free (or less finalized) interactions. Every section and action within the DS is limited in time and finish when the relative stage of the PB also ends, the Political Space that include all the PB process formal actions necessary for it to work.

The CS refers to all participation tools available that are not related to the PB process, allowing citizens to participate beyond the PB process. CS consists of: forum, for general debates; calendar, to share events (personal, internal to a group, or public); reporting problems, e.g. fix my streets; ideas, to gather consensus, comments and build a community around it; group spaces, reserved for associations and communities who have specific ideas to develop. This space can be called as Civic Space, since interactions do not pertain to the management of the whole community but just to the

private sphere within it. Tools, such as rating systems and clustering methods, can be part of it, and be used in the CS as well as in the DS, depending on the purpose.

CS should support citizens to solve problems and to accomplish their ideas beyond the PB (either making petitions or turning it into a concrete projects and implementing them directly) and work in parallel to the PB. It may happen in two different ways: gather supporters in order to send a petition to the Municipality (solve it, do it); provide a working space for the communities that rise around problems or ideas, with appropriate tools that can help them to organize to pursue their aims.

This working space may have internally: forum; wiki; calendar (to set the agenda and meeting); electoral system, to allow member to vote for the admin, who will be entitled to organize the group and build the project, and to vote for the final project; advanced solutions for advanced groups: a kind of deliberative process (e.g. Liquid feedback) to build the best decision.

These CS tools empower communities around proposals. In fact, if these communities are already enrolled, they have already gather around ideas and projects, they will be ready (and be able) to make more reasonable and more shared proposals and to support them alongside the (following) PB process. Vice versa, once enrolled (to propose and/or vote), people will find it easy to get communication to perform further actions or to keep participating again.

Similarly, the platform must be also able to support citizens (individuals, associations, groups, and all those who want to work for the public good) who do not have a virtuous Municipality but who want to start working for PB anyway, by making proposals, debate and then vote for the priorities. The platform should help these groups to motivate their Municipality to start a PB process or, at least, to implement some participation processes. In the best scenario it would be a platform where citizens can enrol and build (and participate) their own PB process, seen as a collective decision-making process. Therefore, some functionalities should allow citizens to vote for the admin (the ‘mayor’ which will have access to the configuration of EMPATIA in order to set the PB process), for the experts who will be entitled to evaluate the projects, etc.

Being grounded on debating, deciding and making proposals under specific thematic issues, the platform supports informal groups and associations (the so called ‘civil society’) to be visible, present themselves, to collect ‘followers’ or rank, and files, in order to establish contacts useful for the promotion and the development of their projects.

Another important tool, which can be part of the CS, but also integrated in the DS, is the ranking of the thematic priorities. People are asked to rank thematic areas according to their priority. It may be a very basic component that provides just the ranking of citywide priorities. Instead, it could be more

complex, and be related to the position (geo-referenced) of the participants, like neighbourhood priorities. This tool is useful to measure the weight of each theme within the budget and to address the local authorities in their expenditures (how to distribute and to allocate the whole budget among the thematic areas).

Another useful tool, which can be within or outside the DS is the idea of gathering preliminarily to the stage of proposing. This can be part of the PB process or just a tool used to encourage people to debate, aggregate and then be ready to make proposals when it allowed (DM3).

Finally, PS relates to the management of the individual participation, in terms of management and public accountability: profile setting, timeline, dashboard, public profile, etc. For instance, it is quite useful to retrieve and to evaluate the activity of the proposer, which is supposed to be the delegates of the proposals that pass the DM3 and that will become the final projects to vote. The personal space should also have a timeline which give people the capacity to follow what is going on in the PB: new proposals, new enrolment, new comments, statistics, etc. The timelines are of two different types: one for the Entity, where all the relevant (public) actions performed by the registered users are listed chronologically (and according to some algorithm); one for each User, according to his/her network (action performed by her/his ‘friends’ (or followers) or within a specific space (a Forum/Thread/Idea/etc.). This gives an overview of the activity within the platform, thus stimulating the participation by the citizens, especially those who have not enrolled yet. PS also offers a private dashboard for citizens to find the summary of her/his activity and to manage it (notification, etc.). This has a similar space, the public profile, which should allow all the registered people (or just the friends, according to the profile settings) to see the activity of each citizen. This is useful for the PB with delegates: when these citizens are also delegates, it is useful to show their personal profile and the activities performed online. This networking system links people and establish connections.

5.5.2. PB cycle

The UC4 PB cycle is an adapted version of the original EMPATIA PB cycle, as described in Figure 2. UC4 PB cycle only addresses the decision making cycle (DM) and some phases are renamed.

Decision Making Cycle (DM)

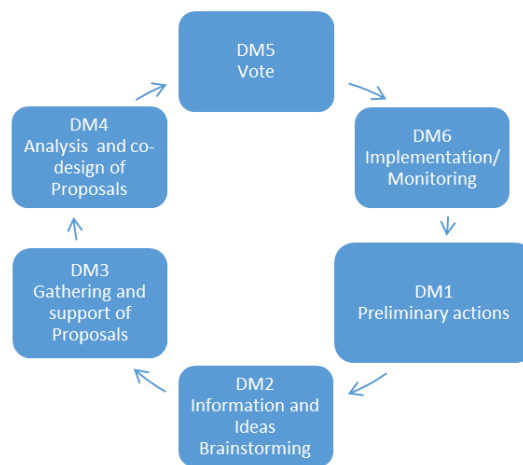


Figure 3 – Use Case 4 PB cycle

5.5.3. PB cycle phases

This use case is composed of one EMPATIA cycles, the Decision Making. Next we describe the phases that compose this PB cycle.

DM1: Preliminary actions

UC4 integrates the citizens in setting the rules of the PB process. A citizens' committee is fostered to support the organization of the PB process. Additionally, a bottom-up approach is taken to involve citizens in the revision of the process rules and methodology. An easy collaborative platform is required to support citizens to comment the rules, propose changes and vote them. A simple forum is the selected tool for discussion and organization.

State-of-the-art: the advisory body and the PA meet to set the rules and to organize the PB process (logistic, advertisement, etc.). Usually, a statute (Carta della Partecipazione) is published afterwards. Usually, there is no citizen involvement in this stage. In some rare cases, a steering committee is formed that includes citizens or civil society organizations. Staff meets with the civil society organizations to inform about the PB process and to ask for collaboration and for local advertisement.

DM2: Information and ideas brainstorming

An 'idea & network' tool allows people to raise basic ideas (naming, describing, geo-tagging and categorizing them), to comment and/or follow them, to propose alternative ideas (if contrary), to make alliances with other ideas in order to build new and more shared (and accurate) ideas and then be ready for the next phase. Posters and flyers can be downloaded from the platform, widgets are

made available to embed on other websites and blogs. Community building tools, such as visualization tools for statistics and public budget, highlight what is available for the citizens' decisions. A mechanism to help citizens to meet and discuss ideas they like or which are similar to others, in order to stimulate aggregation and merging of ideas and proposals. It cannot substitute the individuals' will (such as algorithms or semantic analysis for the civil officers) but suggest actions that are deemed useful.

State-of-the-art: distribution of posters and flyers, press releases. Public meetings to inform about the process and the state-of-the-art (e.g. resources available). Public meetings (together or separated from the previous) to raise the issues at stake, to brainstorm and to create the first connection among citizens around shared needs and proposals.

DM3: Gathering and support of proposals

Citizens can select delegates to put forward their proposals by allowing citizens to rank priorities in order to suggest the most appropriate distribution of budget among the themes. Proponents send their draft proposals to the operational units in the municipality involved in the PB process (or to other trusted experts) in order to receive useful feedbacks about the feasibility of the proposal. Proposals can be downloaded and edited into predefined templates. A data management and visualization tool allows citizens and municipality staff to quickly analyse data from the PB process.

Citizens can make proposals (title, description, category, geo-reference), support proposals, add comments (favour or against). Accounts and identity can be verified, in order to reduce the risk of manipulations. Proponents can also draft proposals before submitting them. Proposals coming from assemblies and/or forms can be manually introduced in the platform by the members of the municipality PB team.

Proposals can be made online as well as offline: public offices and/or mobile stations receive citizens' proposals and supports. Ballot cards and ballot boxes are distributed throughout the municipality.

State-of-the-art: citizens make proposals and ask fellow citizens to support them so their proposal can go to the next stage (only the most supported ones go ahead). The proponent automatically becomes the delegate of the supporters.

DM4: Analysis and co-design of projects

In order to foster a more deliberative scenario, citizens directly support delegates and rank thematic priorities (e.g. education, health, environment), to allow delegates to debate more broadly, adapt their original proposals and design shared projects to put to vote. Direct support of proposals freezes

them and impede delegates to interact with each other and modify the proposals. List of the finalist proposals with the delegate contacts and the communication and co-design tools are made available to collaboratively finalize the project.

Delegates should be able to send proposals to the municipality staff involved in the PB process to validate and support the proposal. The platform supports the internal verification workflow process, and the sum of the internal process is then made available to the delegate (internally, the process creates a validation group similar to a co-design forum). Additionally, by making available a municipality glossary (built, managed and extended by the PB team), delegates can get additional information about how to build their project. Citizens can improve their proposals (versioning) according to the feedback received (other citizens or the municipality PB team).

State-of-the-art: municipal offices evaluate the feasibility of the most popular ('top') proposals. They verify if proposals are of municipality competence, if there are other alternative plans or projects for that place, etc. Unfeasible proposals are rejected, while the partially and fully feasible ones go on. Delegates are called to begin the co-design, as they are entitled to finalize the proposals with the support of the municipal officers, detailing them and estimating the project cost. The delegates are welcomed to merge their proposals.

DM5: Vote

In this phase a variety of voting algorithms should be made available to be selected by the municipality. Is it important to cross-check the authenticity and the eligibility of voters. Integration of online and offline votes, and cross-check citizens' votes is performed to avoid vote frauds. Data management and visualization tools analyse data from the PB process and increase accuracy and transparency.

The platform lists projects (organized by district, when necessary) randomly to avoid reference points and focus only on the first proposals of the list (potentially motivating the analysis of all projects). In the voting section, projects are listed but people read them fully by opening the relative webpage. Citizens can download the project details, trace its history, the proponent details and the supporting community (followers and supporters). Authenticated citizens can express their preference.

Votes are casted online and offline through mobile polling stations and within the public offices. In small town the vote can be made through paper ballots distributed door-to-door and in several public places, and then collected in ballot boxes in predetermined public locations. General or distributed assemblies (or an election day) start/end the voting stage. Final assemblies are organized, where participants can cast their vote again (to incentive the participation).

State-of-the-art: estimated proposals (projects) are put to vote to determine which will be funded.

DM5: Implementation/monitoring

Considering the diversity of the projects, and the different administrative stages to implement them, a horizontal timeline ‘tells the story’ (filled by the municipality officers), that is, a constant flow of information that describes each proposal status and implementation details. A dedicated form can be submitted by the municipality officer to set the deadline for each stage. He is then committed (advocacy) to update the details of the project before the deadline, and allowing automatic calculation of the municipality efficiency (and the officers involved) and providing additional tools for PB implementation planning evaluation.

An additional timeline is available, where citizens (or project delegates) can ‘tell their story’ and post information about the status of the project. This additional timeline motivates the municipal officers to provide status updates and details before citizens submit complaints.

State-of-the-art: projects implementation and usually an information static page describe the status of the project (sometimes supported by a blog with basic interaction).

5.6. Use Case 5

This sub-chapter presents EMPATIA Use Case 5 (UC5) developed using as reference the consortium expertise in Portugal PB implementations and based on a small city (~20.000 inhabitants) with experience in PB processes.

5.6.1. PB cycle

UC5 implements the proposed EMPATIA PB (cf. [Annex A](#)) cycle with no deviations.

5.6.2. PB cycle phases

This use case is composed of the two EMPATIA cycles, the Decision Making and the Implementation cycles. Next we describe the phases that compose this PB cycle.

DM1: Preliminary enabling actions and definition of the rules of the game

At UC5, a more participative approach is desirable, one where citizens are informed beforehand about a toolkit for evaluators and implementers, and which part of Municipality Budget is allocated to Participatory Budgeting. To achieve a more participative and collaborative approach, volunteers/delegates from under-represented sectors of the population will redefine the rules (using

inclusiveness indicators within multi-disciplinary groups). Additionally, an alternative funding scheme for the projects will be available (such as crowdsourcing).

State-of-the-art: In most cases only public servants are in charge of the definition of the rules of the PB process, in some rare exceptions citizens are invited to update the rules or affect some elements of the rules such as the voting age.

DM2: Information and ideas brainstorming

Citizens are informed through a guideline book about current expenditures, and relevant information about municipality taxes. Citizens, delegates, and office manager have the possibility to work together in a co-constructive way for the definition of the regulation.

State-of-the-art: this phase is not implemented, however the PB regulations (including all the amendments and improvements that have made for that year) are published every year.

DM3: Identification of local needs and gathering of proposal

To avoid a reduced or invisible deliberation, it is made available to citizens: an online forum (where people can share opinions); the possibility to upload proposals in real time (after discussion in assemblies); transmit public assemblies in real time using live-streaming (for those who cannot attend in-person); and a wiki (where participants' follow-up proposals and provide comments/suggestions).

State-of-the-art: citizens make their registration beforehand and then present their proposals using the ad-hoc form, either in assemblies or in the Internet. Each citizen can only submit one proposal in the framework of PB-youth or PB within the town. However, all citizens are invited to participate to the debate of the Participatory Assemblies, regardless of their age. The assemblies promote the dialogue and the debate among citizens and its proponents (the only space reserved to that). Through the online platform the discussion is not enabled (this platform only gathers the proposals).

DM4: Analysis and co-design of proposals

This phase promotes convergence of proposals by creating tags to identify commonalities among proposals, mapping the proposals in the territory, using geo-referenced data, discussion online, and track of the evaluations by public servants.

State-of-the-art: the municipal commission for technical analysis of proposals is in charge of defining the proposals feasibility and submit the results for citizens' discussion. If a proposal has been excluded by this commission, proponents can always revise and amend it according to the feedback provided.

Everything is done internally. After submitting the proposal, proponents can revise their proposals with public servants, if necessary, in-person. Currently the filtering phase is not implemented between citizens and public servants, what causes redundancy and time-consuming issues.

DM5: Vote to define priorities

The platform simplifies the voting process and supports different algorithms. Citizens are able to rank their preferences in terms of costs and social impact. Mechanisms are in place to avoid fraud in voting, like the possibility to vote in the same projects using different channels. Votes are tracked and limited according to the rules.

State-of-the-art: the voting procedure is quite complex. Multiple voting is possible, with maximum amount for the two processes: general PB (OPG) and junior PB (OPJ). Citizens have one vote per group of projects: projects that can include more than one parishes/union of the parishes; projects between 25.000€ to 50.000€ regarding the scope of the parish or the municipality; and projects up to 25.000€ regarding the scope of the parish or the municipality. Each citizen up to 35 years old has three votes in the OPJ and one vote to the OPG. Votes have different weight: 1 vote with 3 points in the proposals of OPJ; 1 vote with 2 points in the proposals of OPJ; 1 vote with 1 point in the proposals of OPJ; and 1 vote with 1 point in any proposal of OPG. Citizens above 35 years old have two votes, one for the OPG and another one vote in OPJ. Votes have different weight: 1 vote with 1, 2 and 3 points in the proposals of OPG; 1 vote with 1 point in proposals of OPJ.

Citizens make their registration with ID card number (or VAT number), and then a code will be sent by post, to access online and vote in the platform. All citizens can cast their vote online or in person.

DM5: Integration in public budget

The platform provides for each project to be implemented a detailed costs plan of maintenance to better calculate the sustainability of the process and the annual cost of the winning project proposals, if applicable, in order to give the possibility to the citizens to improve their own proposals.

State-of-the-art: there is no transparency about the public expenditures of the projects. Citizens cannot identify the costs or the sustainability. Only the proponents can track some of these figures.

DM5: Monitoring and feedback

The platform provides targeted information to support actions and avoid citizen's disbelief and loss of interest. All the information regarding amendments is public, allowing citizens to provide feedback and comments.

State-of-the-art: monitoring and feedback is not public. Citizens can only consult the proposals online when they are approved or excluded. Those excluded are published with a short summary of its exclusion.

5.7. Additional use cases

The previously described use cases were developed in the first half of the year during the preliminary negotiation phase in each pilot site. When the advanced negotiations begun after the summer the models that were used as starting point for discussion have significantly changed. Three new use cases have emerged. Their description is covered in detail in D3.1. The pilot that will be implemented in Milan is still not fully designed, but it appears it will follow use case 4.

Additionally most of the initial use cases were focused on participatory budgeting, but due to the local conditions and the demands from our partners most EMPATIA pilots will be broader than participatory budgeting. Both Wuppertal and Lisbon have requested the construction of a multichannel platform that can integrate all the existing participatory processes in a unified system. The pilot in Milan will be effectively the pilot that will remain closest to the original use case scenario described in use case 4. The Říčany pilot is the one that deviates the most from its original use case. In Říčany the adoption of the EMPATIA platform is minimal and is restricted to an anonymous ideation website. No integrated login was implemented and most of the participatory process will be conducted via a pre-existing technology.

5.8. Use Case analysis

The analysis of UCs focuses on the way through which the original model of PB proposed by EMPATIA has been framed and interpreted in the cases studied. The following *figure 4* summarizes the main insights from UCs (relevant and/or recurrent issues and priorities highlighted). As a result of this analysis it is proposed a new PB model for EMPATIA.

As referred in chapter 2, we use the term *phase* in its general meaning: a democratic innovation phase is a set of specific actions aimed at achieving a specific goal in a specific amount of time. The initial proposal defined up to 13 detailed phases that compose the cycle of PB. As you can read in the following table, the focus on detailed micro-phases showed an extreme rigidity in its practical use and led to significant misunderstanding even within the team of EMPATIA. As a consequence, the original subdivision in a high number of phases required a simplification in a smaller number of ‘macro-phases’ that revealed more useful to grasp and describe actual cases of PB and the related

hybrid (online and/or in person) actions that are included in each phase. Figure 4 describes the new EMPATIA PB Model.

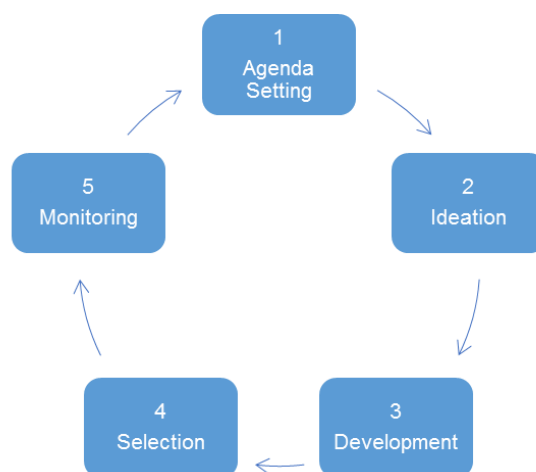


Figure 4 – New EMPATIA PB Model

The phases can be described as follows:

1. **Agenda Setting:** definition of the rules of the game and preparatory actions, including basic information and capacity training sessions
2. **Ideation:** initial brainstorming phase, in which participants – generally organized by territorial units – propose potential public projects and seek consensus and support for their proposals, filtering them based mainly on quantitative criteria.
3. **Development:** intermediate phase, in which the proposals are developed and filtered according to qualitative/technical criteria and prepared for the final selection. This phase generally entails the active engagement of the Technical body of the Entity in charge.
4. **Selection:** this phase entails the final selection of the proposals to be funded, generally through a ballot or polls. The selection generally is officialised through the legal enforcement of PB proposals (*e.g.* the approval of the provisional budget).
5. **Monitoring:** this phase regards the monitoring on the implementation of the proposals. Implementation can be considered as a sub-process composed by a subset of micro-phases that change significantly depending on the content of each proposal and the related administrative procedure. While the rest of the phases are repeated cyclically every year, the monitoring phase can cover a different time-frame and remains as a permanent memory that keeps the history records of PB.

Table 2 – PB Phases Conversion

Initial vision	New PB model
DM1) Preparation of basic rules, including the ‘pot of money’ set aside in the public budget, eligibility rules for project proposals, and rules and processes by which citizens will participate;	Agenda Setting
DM2) Publication of these rules to the wider community and the provision of relevant information on past and current public expenditures to guide citizen proposals;	Ideation
DM3) Development of initial project proposals by citizens, either singly or in public assemblies, often including a deliberation and voting process through which a selected group of proposals pass to the next stage of consideration;	
DM4) Technical review of project proposals by public staff to determine eligibility, assess potential legal or practical conflicts, and recommend improvements to the proposals where possible;	Development
DM5) Voting on final project proposals by the wider community;	Selection
DM6) Integration of the winning project proposals within the public budget framework;	
DM7) Formal adoption of the public budget.	
I1) Formal adoption of the public budget;	Monitoring
I2) Detailed planning of project implementation, including a projected timeline, itemized budget, milestones, and work plans;	
I3) Development of the delivery procedure, including eligibility rules and selection process for implementation partners and other third-party contractors;	
I4) Selection of implementation partners and transfer of funds to begin operations;	
I5) Implementation of the project work plan, constructing the facilities or creating the services envisioned in the selected project;	
I6) Management of the new facilities or services in an ongoing manner;	
I7) Monitoring and feedback, both to improve the implementation of already-funded projects and to guide any modifications of the decision-making process for future projects.	

5.8.1. Agenda Setting

This phase corresponds to the DM1 phase of the original EMPATIA PB model.

As identified in the UCs, this phase is supposed to be delivered directly by the entity in charge of PB. Most of the scenarios do not foresee any specific engagement of citizens at this stage. In some scenarios, it includes the engagement of a restricted group of citizens in the co-design of the rules of PB, and of the general public more loosely, through idea gathering and collaborative tools.

The rules must include some mechanism for the allocation of the money, in order to avoid discretionary and variable decisions, so to increase the stability of the process. The platform should allow citizens/users, delegates and office manager the possibility to work together in a co-constructive way for the definition of the regulation.

EMPATIA is expected to provide additional tools to make more transparent the choices regarding the rules of the game:

- Presentation of the Municipality Budget in a transparent manner, in order to oversee which part of that Budget is really allocated to Participatory Budgeting.
- Introduce criteria for budget allocation based on technical criteria aimed to promote equality and social inclusion (e.g. HDI or similar indexes provided by third parties).
- Possibility to ask participants to rank thematic/geographic areas to modify budget pre-allocation accordingly.

Capacity building sessions also for Managers, Facilitators, Civil Servants and Political Personnel can be useful such as workshops, courses, and role-playing games. Some internal ‘project management’ tools in this early phase could be helpful in order to enforce the collaboration between administrative staff, consultants, citizens within the steering committee.

5.8.2. Ideation

This phase corresponds to the DM2, and DM3 phase of the original EMPATIA PB model.

In this phase, accessible information is the key issue, as highlighted in various UCs. This can be achieved through a guideline book about current expenditures or publicizing relevant information about taxes that municipality has to deal with. In the consultative model it is especially important to show what parts of the budget are actually negotiable and what parts are fixed by law. An active engagement of citizens is foreseeable in the organization of capacity building sessions such as workshops, courses, and role-playing games. Engagement of organized groups and their

communication channels can foster dissemination of key information through the activation of decentralized communication mechanisms.

EMPATIA is expected to provide tools to make more clear and shareable the information.

The development of ideas/proposals is a sub-process in which boundaries do not exactly matches with established stages of the main PB process: there are many people who still have their proposals in mind and are just waiting for the beginning of the PB to put them forward. Some others take advantage of the PB, and the tools that have been provided, to make their own. The more the PB is reiterated (cyclic nature), the more likely that the sub process happens. In its offers, EMPATIA should distinguish ‘community’ tools (for the sub-process) from the ‘institutional’ ones (more linked with the main PB process). *I.e.*, the supporting, the ranking and the deliberative assemblies are ad hoc tools for each PB model. However, they can share and use the same ‘community’ tool which could help people to gather and develop shared proposals for the PB, separated from the PB process. This eventual tool may be useful if the platform will be conceived also as a community space, then open to everybody beyond the PB stages.

Measures (both online and in-person) should be implemented to deal with the large number of proposals submitted, with the quality of the proposals put to vote, with multichannel options and with community building online:

- Presentation of proposals can be improved (*e.g.* advanced filtering options are fundamental).
- Clustering and merging options are important for this phase.
- In-person assemblies should take place after proposals (or ideas) gathering in order to develop ideas into proposals, discuss them with municipal staff and undertake a first feasibility review.
- Ad hoc mechanisms are needed to get the full proposals back online, to consolidate with the original ones and to cluster them.
- Participants should be able to connect with each other and to promote their proposals, for example by making proposals ‘downloadable’ in a poster form.
- EMPATIA should be able to make online proposals more interactive with offline assemblies (in-person meeting should be able to identify and to debate online proposals as well as to put online their proposals).

The key issue to solve regards the reduction of redundancy even in early ideas through the application of early filters and collaborative tools. EMPATIA's integration in the ideation stage is expected to provide:

- Mechanisms to exclude from the process what does not constitute a 'proper' proposal (e.g. general ideas, example critical reviews).
- Mechanisms to aggregate similar proposals on the base of their affinity.
- Mechanisms to suggest the aggregation of similar proposals on the base of the will of proponents.
- Mechanisms to collect and publish online proposal during/at the end of in-person meetings.
- Solutions how to ensure a good overview of proposals for citizens.
- Early Versioning of Proposals: It should also be allowed to do some 'versioning' to the proposals so that what starts as an 'idea' can be developed into full proposals.

A supporting/voting function is expected to take place at this stage in those PB that have a high number of proposal collected. Some PB could have this stage split in two: people first submit proposals, then choose those to support. However, when the PB is reiterated, people are just ready to submit proposal since the first useful day.

In some cases, people can directly elect/choose the delegates to put forward their proposals. Solutions regarding community building and empowerment of (groups of) participants to promote their proposals are envisaged.

5.8.3. Development

This phase corresponds to the DM4 phase of the original EMPATIA PB model.

Filtering is a subsequent stage of the ideation, where the ideas are taken to a higher level of detail, thanks to the contribution of various sources of knowledge (expert and non-expert). The difference between this phase and the previous one (Ideation) is limited to the role of technical/bureaucratic knowledge and to the interaction with the civil servants, but the actual distinction is questionable. In some cases, the work of the technicians is parallel to the Ideation phase. In other cases, it follows a preliminary 'filter' (supporting, rating, etc.), to be sustainable. As far as possible, proposals should be evaluated in advance in order to avoid frustration by the proposers, especially when they have to look for supporters and likers.

EMPATIA should facilitate the construction of a glossary (or FAQ) from the specific answers given by the experts in order to recall them every time it needs.

This stage typically engages experts and technical bodies responsible in the entity, whose interaction with the participants requires to be empowered. EMPATIA's implementation is expected to make this relation more transparent and direct. For instance, EMPATIA should acknowledge and highlight feedback from public officials. It must implement also a rewarding system that appoints people acknowledged as experts by the users.

A technical support system for the internal review procedures needs to be established and thought together with the monitoring system.

Reduction of redundancy is an important issue: one of the expected improvements for this stage is to have some mechanism to reduce the number of proposals that will proceed to the following stages of vote/selection.

Participatory Design might include:

- Using online collaborative tools for co-design, *e.g.* gather suggestions/comments, storytelling, collaborative writing, and wiki-kind of tools.
- Versioning of Proposal throughout this stage.
- Methodological solutions for multichannel participation, *e.g.* proposal evaluation at a face-to-face event and then getting these back online for voting.
- Integrate co-design to existing social networks and online forums.
- Creating, online and in-person, or other narrowed participatory sessions involving a limited number of citizens/groups as for example: the same proponents; focus group including social groups that are traditionally socially excluded; delegates elected in previous stages; representatives of infra-municipal bodies.

Moreover, usually the review only concerns the top voted proposals. Ways to deal with the many other proposals – without the breakdown of administrative staff – would be useful (*e.g.* distributed review including third parties).

5.8.4. Selection

This phase corresponds to the DM5, DM6 and DM7 phases of the original EMPATIA PB model.

Vote for defining the proposals to be funded is generally conceived as a multi-channel stage, better integration between different methods is required:

- Votes can be casted online as well as offline through ballot papers, or tablet via mobile polling stations, or within the public offices.
- In small town the vote can be made through paper ballots distributed door-to-door and in several public places, and then collected in ballot boxes at the same public locations. This reduces the control of frauds, as people can manipulate these cards.
- General or distributed assemblies – or an election day – can start or conclude the voting stage.

Authentication issues, even if transversal, are often associated with voting, related to the risks of fraud or deceitful uses.

Different voting methods should be made available (*e.g.* multiple vote, negative vote, weighted vote, Condorcet method, Borda count, Bucklin method, etc.) including guidelines for their use. Integration of popular vote with other variables as for example multiplication coefficients related to HDI or to specified sectors or geographic area of intervention, or the vote of other bodies (*i.e.* district councils).

Vote must be ‘democratic’: similar to the elections, in order to guarantee democracy and deliberations, people have to have access to every proposal to vote, in order to see the alternatives. With this respect, SMS and any other solution which allow people to directly vote only for a single project should be discouraged, although it increases participation.

It is important to keep available the whole history of each proposal’s development at the final stage of vote.

In some case (*e.g.* Germany) the selection of the proposals to be funded does not imply any kind of vote, but relies on a direct selection from the entity responsible. Nonetheless, even if non-binding also in the German cases there is usually a poll, which produces a ‘Top list’.

In case some proposals were rejected an official justification is required.

5.8.5. Monitoring

This phase corresponds to the full Implementation cycle of the original EMPATIA PB model (7 phases).

None of the UCs foresees specific hybrid functions of participation during the implementation. Participation to the implementation is intended as ‘Monitoring on the implementation’.

Training and organization of the technical body of the responsible entity and its direct engagement in the ‘backend’ is considered crucial for the empowerment of accountability. Explore the possible interaction with OpenData published by the responsible entity.

Citizens should also be able to indicate online, whether they would like further participation in this proposal/if they would like to play an active role in the implementation process. The hypothesis of developing a co-construction session is quoted but not clearly defined in any UC.

EMPATIA should allow (in some way, oblige) the entity to set and describe the implementation timetable in order to be then accountable. Afterwards, it can report the state of the art, through text (descriptions) and uploaded materials (photo/video/documents).

The proponents of the winning projects (and, in some way, those who are interested), as well, should be capable to ‘report’ the state of the art, as a ‘counter power’.

Some cases highlight the possibility to integrate alternative possibilities for co-funding the projects as crowdsourcing/crowdfunding initiatives.

No UC considers as a relevant issue the long-term perspective of proposals, meaning the extension of monitoring on the costs and performance in long term management.

Basic requirement is the publication of information regarding the outcomes of PB in real life.

Emphasis is also given to the possibility to integrate monitoring functions with whistleblowing functions coming from individual participants, organized groups or groups created ad hoc (*e.g.* the promoters of the same proposals; the delegates of a given neighbourhood).

Using Third Parties data (*e.g.* UNDP Human Development Index, other geo-referenced indexes of quality of life) is required to evaluate the inequalities of territory and urgent needs.

There should be open access to all information on PB, submitted and winning projects.

A notification system should be implemented in order to allow citizens to follow the advancements of processes on long term.

The possibility to have an evaluation session (Focus Groups, Questionnaires, etc.) at the end of the deliberative process of PB should be considered. Questionnaires can be launched automatically after a specific time.

The online platform should provide an easily usable backend in which decisions can be published for each proposal (*e.g.* ‘traffic light’ system).

There should be visualisations and an announcement prominently on the home page. There needs to be a quick overview of accepted/rejected/implemented proposals.

There needs to be an archive function (*i.e.* accessibility of proposals from past years).

The monitoring phase also requires some mechanism for citizens to give feedback on the monitoring: possibility to say ‘thank you’ or for general evaluation and feedback in the implementation phase. There could be a participative element online, *e.g.* a shout box (‘Tell us about your experience with PB...’).

5.9. Non-functional requirements

Most of the previously described UC maps are based on a pilot or concrete expertise in ongoing PB process. Also according to these, a ranking of non-functional requirements was gathered. This ranking, described in Table 3, identifies the most valuable requirements for the pilots and PB processes.

The most critical issues to focus on EMPATIA are:

- Mechanisms and tools for **collaborative writing** of proposals and management of the interaction between multiple and varied authors/editors/users.
- Improvement of the capacity of **data-analysis** applied to the cycle of PB.
- Development of reliable mechanisms of **voting**, enabling an efficient management of multiple means and channel for vote.

Table 3 - Ranking of non-functional requirements

Priority	UC1 Germany Pilot	UC2 Czech Republic Pilot	UC3 Portugal Pilot	UC4 Italy	UC5 Portugal
1	Versioning of proposals	Data analysis		Data analysis	Proposals development
2	Secure authentication	Voting Prioritizing		Proposals refinement	Focus Group
3	Multichannel voting	User Management			Data analysis
4	Monitoring tools	Process Management			Vote

6. Requirements: Early Draft

This chapter focuses on the description of requirements for the EMPATIA platform. Moving from the analysis of UCs presented in the previous chapter, the phases of PB are de-constructed in asynchronous actions in the following first sub-chapter. In the second sub-chapter there is a preliminary list of the possible tools necessary for the delivery of actions. For each tool, a first list of detailed features has been developed.

6.1. De-constructing PB: from Phases to Actions

The simplified macro phases of PB (*i.e.* Agenda Setting, Ideation, Filtering, Selection, Monitoring) are here de-constructed in order to analyse the actions that compose them.

It is important to restate here that the use of the term *Action* in this deliverable, refers to a deliberative function that a user can perform within a participatory process, generally implying an interaction between two or more different players. Each phase is indeed composed by an organized set of actions, which to achieve a specific goal in a specific amount of time (see chapter 0).

Many actions are repeated through the phases, even if their actual delivery takes different form for each phase. For example all the phases of PB contain an ‘Information’ action; however, the content and the channel used in each phase are significantly different. For this reason the term Action can be framed here also as ‘category of actions’.

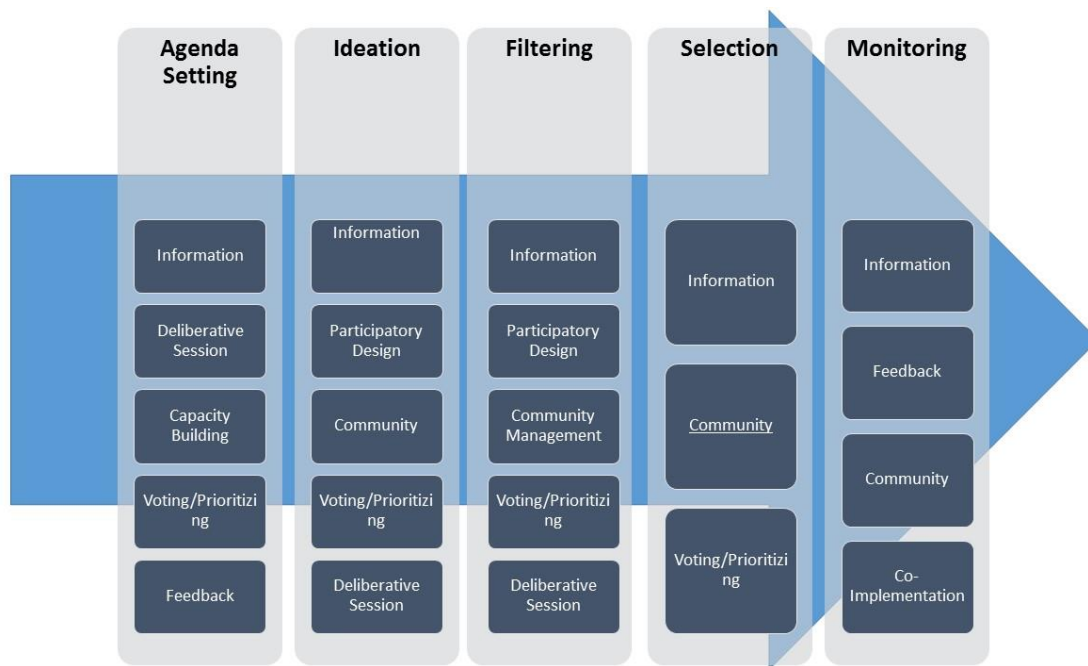


Figure 5 - From Phases to Actions

The main actions observed in PB process have been aggregated in the categories listed in the following sub-chapter.

Process Related Actions

Here are grouped all the categories of actions strictly related to the functioning of a PB process.

- Information

This category includes the interactions based on the unidirectional provision of information, meaning the creation, editing and management of public information and data regarding the process. The source of the information provided can be the same entity or a third party.

It includes in general three categories of information:

- Related to the functioning of PB (*i.e.* regulations, calendar of the public events, official announces regarding the process)
- Related to the activity of the Entity in relation to the process (*e.g.* the approval of the provisional budget, launch of a consultation on specific topics)

- c) Related to other news and events indirectly related to the process. (*e.g.* supra-municipal decisions affecting PB management, local private initiatives of urban transformation, etc.)

- Community Management

This category includes all the non-structured interactions between users and groups of users, where free and non-finalized discussions can take place.

- Participatory Design

This category is the core of structured interactions within the platform, where the structure of the Deliberative process is defined. Indeed, the definition of the PB process correspond to the definition of the process through which proposals are created, refined, filtered, supported, merged, forked, evaluated.

- Voting/Prioritizing

This category includes voting and prioritization actions, intended both as a specific stage in PB or as a complementary element of other stages/processes.

- Feedback

This category includes all the actions related to participatory monitoring and implementation of the Participatory Decision-Making process, and is focused on collecting structured feedbacks (mainly through surveys) from the various categories of participants.

Extra

Here are grouped all the categories of actions that are complementary to the functioning of a PB process (non-core).

- Capacity Building

This category includes Capacity Building actions for different users (Citizens, Facilitators, Civil Servants, Politicians, etc.).

- Deliberative Session

This category refers to all the deliberative sessions, open (*e.g.* general or neighbourhood assemblies) or restricted to specific kind of public (*e.g.* experts, random samples, organized groups, ad hoc groups), independently of the function they cover in the process and of the methodology used for their delivery (*e.g.* Facilitated or not, Focus Groups, OST).

- Co-implementation

This category refers to active engagement of citizens/groups of citizens in the implementation of services/works. It includes co-funding in money (*i.e.* crowdfunding), in goods/services or in (unpaid) working time.

Configuration Actions

Two other categories of actions are performed by the organizers and in some cases by participants that have acquired administrative privileges via repeated participation, appointment, sortation or election. An example of the latter are experienced participants that are called to become community managers or facilitators in many participatory budgeting processes.

- Process Management

This category refers to the users that will manage the entity, and includes internal hierarchical structure of permissions and access based on roles.

- User Management

This category refers to all citizens that engage the system as users. Some users, depending on their involvement and the entity configuration may have moderation, collaboration, or other user roles, that will allow them to have access to restricted actions.

The following Table provides use case examples for the actions described in relation to the five macro-phases of PB.

Table 4 - From Phases to Actions

Phases	Actions	Use Cases Examples
Agenda	Information	Information Regarding the rules of the game defined and published by the entity
	Deliberative Session	Engagement of restricted groups of citizens (randomized, representatives, infra-municipal, participatory elites) in the co-design of the process and/or specific sub rules
	Capacity Building	Capacity Building sessions (Courses, handbooks, theatre, etc.) focused on PB rules and/or Budget analysis

	Voting/Prioritizing	Ranking Thematic/Geographic Priorities; ranking regulation options.
	Feedback	Questionnaires regarding the clarity/Test regarding the accessibility or usability
Ideation	Information	Information regarding the Public meetings organized, the budget available, the suitable use of it.
	Participatory Design	Development of initial ideas and early versioning, <i>i.e.</i> suggested/based on affinity
	Community	Engagement of organized groups in the ideation of proposal: collaborative proposals, delegations, etc. Creation of new groups. Elections of Delegates/Spokespersons based on geographical/thematic criteria.
	Voting/Prioritizing	Express support to ideas in the early stage in order to aggregate them and reduce the number of proposals
	Deliberative Session	Mini-publics. Focus Group including weak social groups/weak neighbourhoods that are traditionally excluded from decision-making mechanisms. Deliberative meetings to foster the aggregation of ideas
Filtering	Information	Information on the means of participatory design (how the proposals will be technically developed)
	Participatory Design	Collaborative design of proposal and advanced versioning, including contributes from technical bodies of the entity.
	Community Management	Organized Groups are engaged in development of proposals in roundtables promoted by the entity
	Voting/Prioritizing	Support a specific version of the proposal or the possibility to fork it
	Deliberative Session	Mini-public or panel of Experts in the topic covered by the proposal
Selection	Information	Public Campaigns on the ballot/information on the results of selection
	Community	Communities of people gather and organize themselves to promote specific proposals (Forum for discussion, Calendar for events, etc.)
	Voting/Prioritizing	Vote to decide the proposal to be funded
Monitoring	Information	Publication of Information regarding the advancement of project/services implementation; Push Notification System.

	Feedback	Evaluation Questionnaires
	Community	Creation of monitoring groups related to specific projects/proposals, associated to individuals or pre-existing groups
	Co-Implementation	Integrate crowdfunding mechanisms; Provision of complementary services on voluntary bases.

6.2. Requirements Description

Based on the actions (or category of actions) defined in the previous sub-chapter, here are detailed the tools and the main features that EMPATIA platform is required to have developed.

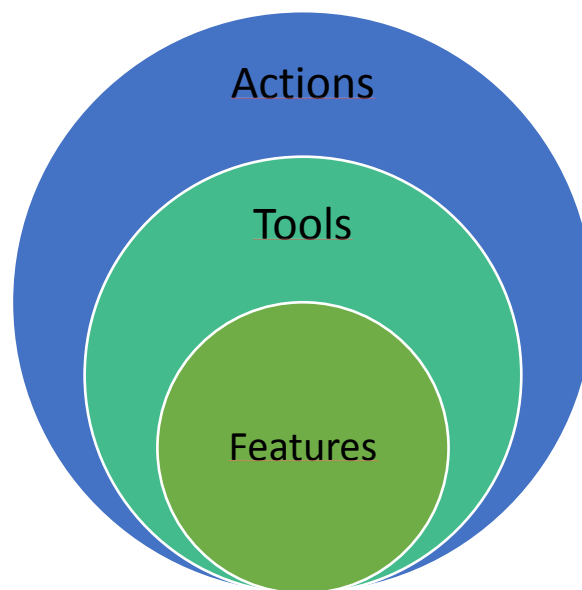


Figure 6 - Requirements Description Structure

Figure 6 describes the hierarchical relation between actions, tools and features that defines the structure of Table 5, where requirements are described. In addition, the requirements have been shaped according to the perspective of two main groups of possible users:

- Users: Citizens with the basic level of permissions
- Managers: All the categories with advanced level of permissions (Admin, Managers, Facilitators, Civil Servants, Politicians Legislative, Politicians Executive, Others)

Table 5 - Requirements Description
1. Process Core Interactions

⌚	Tool	Ex.	Features	Requirements User	Requirements Manager
Information	Content Management System (CMS)	http://www.drupal.org/ https://www.joomla.org/ http://wordpress.org	Content Management System for publishing, editing, modifying, organizing, deleting, and maintaining content regarding the functioning of the process. This tool should be managed by Process Manager.	Read/Comment - News/Pages - Calendar/Events	Configure and Manage - Static Pages - News - Other Categories - Calendar/Events - Newsletter
	Data Analysis	http://budget.g0v.it/ http://openbudget.s.eu/ http://www.tableau.com/ http://www.openbilanci.it/	Allows measurement, collection, visualization, analysis and reporting of data regarding: - participation within the PB process (finalized actions) - participation beyond the PB process (non-finalized actions) - Other relevant accessible open dataset (<i>i.e.</i> Public Budget) - Web analytics	- Access/Download Open Datasets - Configure and Manage Visualization features	- Configure Web analytics - Configure and adapt data structure and standards - Configure interactions with third parties Open Datasets - Configure and Manage Visualization features
	Social Media Aggregator	https://wordpress.org/plugins/social-media-aggregator/	Automated integration of external sources of information (<i>i.e.</i> Social networks) based on selected criteria (<i>i.e.</i> Tag, RSS, etc.)	- Read - Comment	- Configure rules/sources for Social Media Aggregation
	Notification		Automated Notifications/push services system. It is supposed to be used both in structured interactions and non structured interactions. Notification could be delivered through different channels (web, mail, SMS, etc.)	- Visualize Notification (web/app/mail/SMS) - Configure/Choose Personal Notification Sources - Configure/Choose Personal Notification Channels	- Create/Manage non automated Notification - Configure Associations between Notification and other existing tools

	Implementation Monitor	https://www.fixmystreet.com/ https://www.buergerhaushalt-lichtenberg.de/	It allows monitoring the implementation of the proposals, according to the procedure(s) followed by the Entity.	<ul style="list-style-type: none"> - Read (Text/Map Visualization Options) - Comment/Report/Contribute 	<ul style="list-style-type: none"> - Configure/Adapt Implementation Procedures - Configure and Manage Monitoring Datasets and Access Option - Configure interactions with Open Datasets
Community	Social Networking Tools	https://en.wikipedia.org/wiki/Comparison_of_social_networking_software	Set of tools that provide the basis for community driven content sharing and social networking	<ul style="list-style-type: none"> - Post - Comment - Follow - Like - Connect with other - Create and manage groups - Manage relations with structured interactions 	<ul style="list-style-type: none"> - Define rules for Forum Creation and Management - Official Forum Creation and Management - Define Rules for the management of Relations with Structured Interactions - Define Rules for Safe Space - Civilized discussions only (keywords, levels)
	Forum	https://www.discourse.org/ https://app.teemworks	Online forum where people can share opinions.	<ul style="list-style-type: none"> - Create Discussion - Respond - Like - Moderate/approve - Manage Relations with Structured Interactions 	<ul style="list-style-type: none"> - Define rules for Forum Creation and Management - Official Forum Creation and Management - Define Rules for the management of Relations with Structured Interactions - Rules for Safe Space - Civilized discussions only (keywords, levels) - Facilitation functions
	Social Neighbourhood	http://neighborgoods.net/	Tool to support the enforcement of local networks at neighbourhood level. It can also correspond with infra-municipal bodies (i.e. parishes, zones etc.).	<ul style="list-style-type: none"> - Geo-tag items from the platform - Add/Search Items - Offer/Ask Services - Offer/Ask Time 	<ul style="list-style-type: none"> - Configure rules for: <ul style="list-style-type: none"> o Geo-tagging o Item Descriptions o Services Descriptions
	Participatory Design	https://hackpad.com/ http://liuidfeedback.org/ http://etherpad.org/ https://et	It allows people to raise basic ideas (naming, describing, geo-tagging and categorizing them), to comment and/or follow them, to propose alternative ideas (if contrary), to make alliances with other ideas in order to build new and	<ul style="list-style-type: none"> - Creation of items - Collaborative Text Writing <ul style="list-style-type: none"> o Comment o Editing (Text and media) o Versioning o Merge o Fork - Collaborative 	<ul style="list-style-type: none"> - Design flow and configure procedure for proposal's development (Process Stages/Users/Intermediate Polls) - Definition of rules and standards for proposal's development (fields)

		hercalc.net/ http://demo.open-dcn.org/proposals/index/2/1	more shared (and accurate) ideas and then be ready for the following stages.	Spreadsheet Writing <ul style="list-style-type: none"> ○ Crowdsourced Basic Info (non-numeric content) ○ Calc (numeric) 	- Definition of rules and procedures for interactions with technical bodies of the Entity (<i>i.e.</i> feasibility check). - Approval/Reject between each stage
	Redundancy Reduction Tool	https://pol.is	A mechanism/algorithm that help people to meet with ideas they like or which are similar to others, in order to stimulate aggregation and mergers. It must not substitute the individuals' will but just suggest people some actions which are deemed useful	- Choose option on available criteria (<i>i.e.</i> distance on map, or inserting keywords) - Choose between textual/Graphic visualization	- Define Criteria for algorithm(s) functioning: <ul style="list-style-type: none"> ○ Geo-based ○ Theme/Category ○ Keywords ○ Others
Voting/Prioritizing	Polls	https://www.d21.me/ https://vote.heliosvoting.org http://democracy.s.org/	It allows people to create and participate in polls to vote/support/prioritize between multiple options. A range of voting method could be adopted (multiple vote, negative vote, weighted vote, Condorcet method, Borda count, Bucklin method, etc)	- Vote/Support - Read, Download and Export Results - Create and Configure polls (in relation with Community tools)	- Define rules/limitations for polls Creation - Applicable Voting Methods - Create and Manage polls - Define Coefficients for weighted vote
	Report	http://digitalwhistle.eu/	It provides 'digital whistleblowing' functions to users/groups of users.	- Create, Edit ticket (text, multimedia) - Comment/Report/Contribute	- Configure/Adapt Ticket management Procedures - Ticket Management
Monitoring	Questionnaire	https://www.limesurvey.org https://open.jira.com/wiki/display/ST/Home	It allows to create, manage, and fill surveys and questionnaires. Users could use it in non-structured interactions (<i>i.e.</i> internal surveys in a group/neighbourhood)	- Fill questionnaires - Read, Download and Export Results	- Create Questionnaires - Define rules/limitations for Questionnaires Creation

2. Extra

F	Tool	Ex.	Features	Requirements User	Requirements Manager
Capacity Building	Courses	https://moodle.org/	E-learning tool that deliver training courses	<ul style="list-style-type: none"> - Attend Courses, text exams - Access didactic documentation - Communicate with trainers - Propose new courses (upgrade to trainer) - Achieve user upgrades (<i>i.e.</i> authorized facilitator after a course) 	<ul style="list-style-type: none"> - Create and Manage Courses: <ul style="list-style-type: none"> o Appoint Trainers o Content management (Text, Audio, Video, ppt) o Create tests/exams o Communication trainers/trained
	Serious Games	http://www.seriousgamesinstitute.co.uk/	Games that allow simulations of PB, segment of PB or other participatory processes for the purpose of training and education. Serious games differ from a perspective of gamification of PB by establishing reflexive points where users are invited to compare their game experience with real-life experience (to be used in combination with Survey/Questionnaires tools)	<ul style="list-style-type: none"> - Ad hoc User Requirements 	<ul style="list-style-type: none"> - Ad hoc Manager Requirements
	e-Library	http://www.jabref.org/	On line Library of didactic and informative documents released in Open Access (CC or other similar), indexed through a bibliography reference manager.	<ul style="list-style-type: none"> - Search - Read - Download/Upload - Edit Metadata 	<ul style="list-style-type: none"> - Configure citation/bibliography reference manager - Download/Upload - Edit Metadata
	Live Session	http://www.ustream.tv/ https://www.periscope.tv/	It allows to receive and transmit live video transmissions that connect a narrowed deliberative session to a broader public online. The public can interact through chat (video?) according to the specific rules defined for each session.	<ul style="list-style-type: none"> - Attend a live session - Remotely participate to a live session - Facilitate a live session 	<ul style="list-style-type: none"> - Define rules for creation and configuration of live sessions - Create and manage a live session
Implementing	Crowdfunding	https://www.crowdfunder.me	Crowdfunding tool that allows to gather additional resources to complement	<ul style="list-style-type: none"> - Propose and manage crowdfunding initiative related to 	<ul style="list-style-type: none"> - Define rules for creation and configuration of

			proposals already publicly funded or to fund ex-novo proposals that didn't receive public funds. Resources could be offered in money, time, goods.	existing/new proposal (link with Collaborative Proposals) - Make Offers	Crowdfunding Initiatives - Propose and manage crowdfunding initiative related to existing/new proposal
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3. Transversal Functions

	Tool	Features	Requirements User	Requirements Manager
Process Management	Process Management	This tool allows to setup the process, defining basic rules for each structured process managed through the platform.	NA	Define general rules for the entity and process: - Languages - Currency - Countries - Time zone - Number of structured processes - Time-life of structured processes - Pot(s) of money allocated - Geographic map and subdivisions - Roles/permissions manager - Authentication methods - Personal Data Policy (ethic/legal issues)
User Management	User Management	This tool allows to manage Users, Permissions and Authentication.	- Registration - Authentication - Authorization - Accounting - Profile management - Activity history - Messages history	NA

6.3. Additional requirements and tools

Chapter five of this document identified a ranking of non-functional requirements based on the input of the consortium partners. However our multi-method approach to requirements gathering included also secondary procedures that were described in chapter four. In particular we highlighted three additional processes:

- 1) Empaville: *i.e.* a gamified multiuser experience (see chapter 4.3)
- 2) Mapping additional use cases (see chapter 4.4.1)

3) One to One user experience (see chapter 4.6)

These three activities have generated insofar three additional functional and non-functional requirements that have promoted the development of new tools. On top of these three activities the internal discussions within the consortium highlighted the lacuna of existing e-deliberation technologies. A recurrent problem that is reported also in section five is the problematic platforms used for collaborative production of projects, versioning and refinement of ideas. Thus identifying better solution for e-deliberation has become a priority for the EMPATIA project. Section 6.3.4 explore the current requirements developed around e-deliberation and a new spinoff project that a member of our research board has dedicated to the problem that will make use of the EMPATIA platform.

6.3.1. Voting

Our gamified multi user experience, Empaville, described in more detail in section 4.3, allowed us to test and re-test a voting process that integrates multiple media. This procedure promoted a constant updating of the voting procedures and an improvement of the user interface, its stability and scalability. This process allowed us to deploy the Condeixa pilot that required only the voting module, in less than a month. For a description of the Condeixa pilot see D3.1.

The multi user voting experience has also highlighted how difficult it is to vote with digital tools and how time consuming it is when the available voting tools are limited. Therefore EMPATIA is now exploring the adaptation of a hybrid technology that would allow participants to vote on paper ballot, but then would employ a dedicated ballot scanner that could upload the votes quickly. This solution seems fundamental for participatory processes that target demographics that do not have access to the internet.

6.3.2. Informed consent

As anticipated in chapter 4.4 our mapping of existing e-participatory solutions highlighted a gap in user data protection and informed consent practices. More details about the mapping process can be found in deliverable 1.3. For the purpose of this deliverable we highlight the following requirements that we have identified for the EMPATIA platform informed consent guidelines. We have identified four crucial requirements:

- the separation between Privacy Policy and Terms of Service (ToS). Both has to be clearly indicated and opt-in, in every page of the platform, by different links. If possible, the opt-in should be provided during the first user login;

- the use of a non-legal jargon to present these documents. The links to the original legal texts can be provided from human-readable landing page (i.e. Information Sheet). Different levels of documentation can be provided, by short videos, written documentation in accessible language, technical manuals;
- the hosting of every part of the core and the admin components on servers under a single European country in order to avoid possible legal issues and complications;
- the publication of the FAQs, of manuals and documentation, of the source code in the case of free and open source platform, on a website directly managed by projects partners following the consortium Agreement. Replication of these data can be useful, also on commercial platforms, but it is crucial to preserve the integrity of the original data. Any other option, including the publication of open source repositories such as github.com – which is the case for every FLOSS platform analysed – implies the multiplication of ToS, privacy policy and licenses the user has to read and agree with.

These requirements have been translated in specific policies that have been adopted by the consortium and are described in section 5.2 of deliverable 3.1. For the purpose of this report, what we want to highlight is how the multi-method approach of requirement gathering enriched the standard procedure of case-oriented requirement gathering and generated actual tangible effects.

6.3.3. Wizard & templates

One to one UX focused on the usability of the back office tool. As mentioned in section 4.6 this testing has started only in the fall of 2016. Over the course of the fall we have gathered feedback in UX with David Asher, of the technology development team of the Participedia project and former VP of product development of the Mozilla Foundation, Professor Susan Halford and Professor Leslie Carr, Directors of the Web Science Institute at the University of Southampton, and with a number of technology and participation experts that work for the city of Lisbon.

The initial feedback we have gathered has been very interesting. The current back office tool is optimized for experienced practitioners and bureaucrats that have implemented participatory processes many times. This is not surprising because most of the partners of the EMPATIA consortium fit perfectly such persona. Thus, the existing back office was immediately understood by practitioners and bureaucrats who work in the digital engagement teams of the city of Lisbon. However both David Asher and the academic professors from Southampton highlighted how difficult for them the current back office tool was. These users have very limited experiences with implementing participatory institutions and have a more general perspective with respect usability.

Asher highlighted how it is crucial to develop an interface that can speak to naïve users and is curated and guided. On the basis of such feedback the EMPATIA consortium has identified the need of a Wizard tool and ‘templates’ that are designed for users that have no experience in democratic innovations and thus need significance guidance. The ultimate goal is to have a back-office tool that can engage three different types of users:

- 1) the technician who has no interest in democratic innovations and is interested in reusing the tools for its own purposes that might be completely unrelated to the goals of EMPATIA.
- 2) the expert practitioner who knows in details a variety of processes, but has no knowledge of coding and needs a highly flexible platform that can implement diverse institutional designs.
- 3) the non-expert user, a bureaucrat, an academic, a practitioner, who is implementing for the first time a democratic innovation and requires a guided experience with significant explanations and the possibility of directly implementing what we called templates, *i.e.* “the model of Milan”, “the model of Lisbon”. These templates will combine a pre-set system of features with an extensive set of guides.

The first two goals have already been achieved, through the procedure that was discussed in section 5 and 6, the latter goal instead will be one of the main challenge for the second year of the EMPATIA platform.

We have begun experimenting with a preliminary Wizard, but the current iteration is still too complex. That is why we are also experimenting with templates, *i.e.* pre-configured packages that implement an entire process and offer guides for tweaking.

6.3.4. E-deliberation

One of the key weaknesses of digital participatory processes is the lack of a robust online e-deliberation environment. This problem has recurrently emerged in the discussion within the consortium and it is one of the top requirements identified in section five that touches both the versioning of proposals and the development of proposals.

The EMPATIA consortium discussed this issue recurrently during the first year and concluded that existing technology is still not robust enough to sustain high quality deliberation. For such reason all our pilots are integrating online deliberation with thick face-to-face deliberation based on the state of the art technology inspired by deliberative polls and similar democratic innovations.

That said, the EMPATIA consortium was interested in testing new technologies for deliberation in a safe environment that could not negatively affect real life municipal multichannel engagement pilots that are often deployed in the midst of political opposition and need to rely on proven technology.

For such reason a task force composed by some members of the research board (Paolo Spada and Graham Smith) and external academics (Michael Morrel) designed a new academic research project and obtained dedicated funding to deploy it in the spring of 2018. The project is based on a state of the art randomized controlled trial specifically designed to explore new tools dedicated to optimize e-deliberation. For more information regarding the project that can be effectively considered the first spin-off of the EMPATIA platform that received external funding, see Annex D.

7. Conclusions

As described in the introduction, this report has covered three main objectives.

First, we developed in Chapters 2 and 3 a preliminary analytical framework to research multi-channel participatory processes, starting from the definition of a participation channel as “institutions that integrate messages and participatory spaces targeted to different segments of the population in a system specifically designed to increase and deepen citizen participation in the political decision making process”. In our perspective the main challenges of multi-channel participation regards then the design of an engagement process adapted to the kind of publics it aims to reach, as opposite to technology driven approaches that identify the channels with the tools of interaction (technological or not). A consistent methodology to research (and to manage) multi-channel participation is still distant: our contribution still is in a raw format and requires to be refined theoretically and tested in field research during the future stages of the project. The EMPATIA project can be seen as a first step in a pragmatic research and testing agenda.

Second, we developed a first set of non-functional and functional requirements for the EMPATIA platform prototype. Also in this case we will proceed through various stages of clarification and refinement along the forthcoming steps of project. For the moment we have been able to define a “superset” of requirements and a preliminary ranking based on the point of view of the component of the consortium described in Use Cases, in Chapter 5. Chapter 6 provided a preliminary systematization of the possible requirement for EMPATIA platform. Consistently with feedbacks coming from technological development and in particular from the “field” we will have to refine and select those tools and component of the platform that will be identified as a priority by the various actors that will have to actually use them, including final users and future managers of the pilots.

Third, we provided the base of knowledge and information necessary to the activation of Tasks and WP that will be feed and guided by the content of this deliverable.

What are the next steps¹⁵?

- A final version of this deliverable will be released in M18 of the project. These deliverable will represent an advancement of the present document and will include a refinement of its two main component, namely a methodology to research, design and manage multi-channel participatory processes and a detailed set of functional and non-functional requirements for

¹⁵ Cf. Figure 1 in order to understand fully the internal references to other Working Packages and Tasks of EMPATIA

the EMPATIA platform and tools, including a significant technical and methodological documentation.

- The body of knowledge developed in the first part of this report will be feeding the activity of a number of other tasks. In particular, the planned pilots in Wuppertal, Riçany, Lisbon and Milan.
- The further refinement of the EMPATIA platform will continue in a dialogic process. In particular the deployment of the four pilots will generate significant data and feedback that will be embedded in the new iteration of the platform.
- The secondary research processes will continue to generate requirements and use case scenarios (*e.g.* IODP mapping, Empaville, e-deliberation spinoff).

Keywords of EMPATIA

Note: this is a brief glossary prepared with the purpose to create a common language within the partnership of EMPATIA. The glossary is limited to essential keywords that connect the first theoretical component of this deliverable with the second one, oriented to the development of EMPATIA's platform, tools and methods.

Action

The use of the term Action, refers to a deliberative function that a user can perform within a participatory process, generally implying an interaction between two or more different players. Typically actions in face-to-face participatory processes include listening, talking, reading, ranking, and voting. Example of online actions are generating, editing, commenting, versioning and ranking ideas and proposals.

Channel

A Channel of engagement is defined as a combination of messages and participatory processes designed to encourage a specific behaviour in a (specific) target public.

Civic Technologies

In this deliverable we refer to the framework for analysis of civic technology provided by (Wenger, White, and Smith 2009) that focuses on 4 levels of definition: the configuration of technologies that a community and its members use; the platforms into which vendors and developers package technology; the tools that support specific or bridge between types of activities; the features of tools and platforms that make them usable or differentiate one offering from another.

Democratic Innovation

We adopt the term of Democratic Innovations to define institutions specifically designed to increase and deepen citizen participation in the political decision-making process. The big majority of Democratic Innovations are commonly 'Invited Spaces'. PB can be considered as one of the most complex democratic innovation.

Hybrid PB

Hybridization is a term meaning many different things, but always indicating the gradual abandonment of a supposed 'pure archetype' of PB. Three main trends of hybridization are analyzed in this paper, not limited to the mere mix between in-person and online channels of participation.

- a) Dynamics of continuity with pre-existing democratic experiments
- b) Convergence of different tools and methods into PB
- c) Cross-pollination of different discursive models of democracy

Multi- Channel Democratic Innovation

Multi-channel democratic innovations are institutions that integrate messages and participatory spaces targeted to different segments of the population in a system specifically designed to increase and deepen citizen participation in the political decision making process.

Participatory Spaces

The definition of a participatory space in this deliverable distinguishes between ‘invited spaces’, participatory spaces designed by a government/organization to involve citizens and ‘invented spaces’, participatory spaces claimed by bottom-up social movements

Phase

The majority of Democratic Innovations are structured through subsequent phases. In this deliverable, a phase is defined as a set of specific actions aimed at achieving a specific goal in a specific amount of time. Each phase can be significantly different in design, and allow participants to perform different set of actions, but do not target different publics; hence, they are not different channels of engagement. For Example PB processes are commonly divided in phases of Agenda Setting, Ideation, Filtering, Selection and Monitoring.

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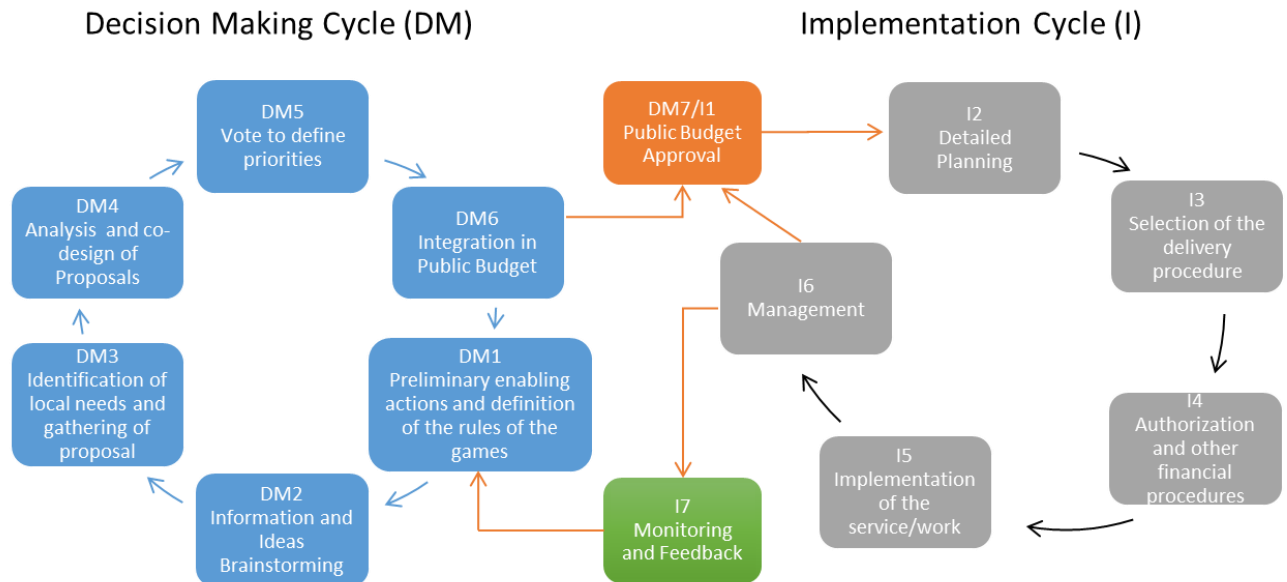
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ANNEX A: EMPATIA PB Cycle (from the original proposal)



The PB model described in EMPATIA proposal was organized in 2 main cycles:

The **decision-making cycle** is subdivided into seven distinct phases:

- DM1) Preparation of basic rules, including the “pot of money” set aside in the public budget, eligibility rules for project proposals, and rules and processes by which citizens will participate;
- DM2) Publication of these rules to the wider community and the provision of relevant information on past and current public expenditures to guide citizen proposals;
- DM3) Development of initial project proposals by citizens, either singly or in public assemblies, often including a deliberation and voting process through which a selected group of proposals pass to the next stage of consideration;
- DM4) Technical review of project proposals by public staff to determine eligibility, assess potential legal or practical conflicts, and recommend improvements to the proposals where possible;
- DM5) Voting on final project proposals by the wider community;
- DM6) Integration of the winning project proposals within the public budget framework;
- DM7) Formal adoption of the public budget.

This final step in the decision-making cycle serves as the first of seven distinct phases within the **implementation cycle**:

- 11) Formal adoption of the public budget;
- 12) Detailed planning of project implementation, including a projected timeline, itemized budget, milestones, and work plans;
- 13) Development of the delivery procedure, including eligibility rules and selection process for implementation partners and other third-party contractors;
- 14) Selection of implementation partners and transfer of funds to begin operations;
- 15) Implementation of the project work plan, constructing the facilities or creating the services envisioned in the selected project;
- 16) Management of the new facilities or services in an ongoing manner;
- 17) Monitoring and feedback, both to improve the implementation of already-funded projects and to guide any modifications of the decision-making process for future projects.

ANNEX B: Template for Use Case Scenarios

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[Use Case Scenario Template]

Instructions

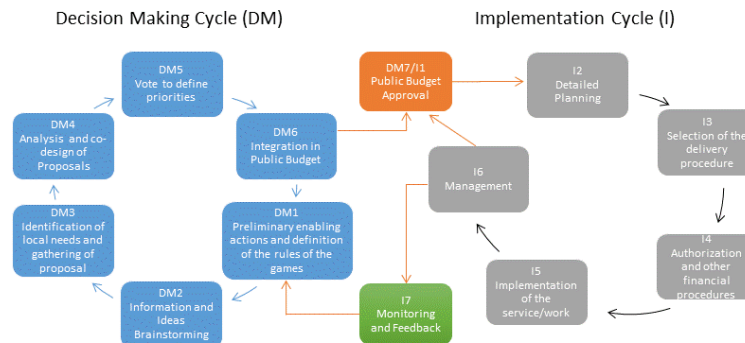
The main goal of the Use Case Scenario is to imagine a possible (realistic!) use of EMPATIA Platform in a given case. Keeping that in mind, we ask you all to focus on the hybrid dimension of your PB cases, trying to imagine as much as possible how the platform could help to solve issues and explore latent possibilities that you actually observed in inperson and/or online participation. The first set of requirements will necessarily **focus on «hybrid» requirements** that crosscut the social and the technological dimensions of PB. This is a necessary step that will allow us to detail in a following stage the pure technical requirements.

- **Design the PB Process of the Case**
 - You can start from the double cycle presented in EMPATIA, modifying it where necessary in order to represent as much as possible the actual state of the art of your Case
 - If you think it is useful, you can design a process reflecting the state of the art and one (or more) scenarios of PB cycle.
- **Describe the Use Case Scenario in general**
 - Describe the Use Case Scenario(s) in wider terms and identify the main features, focusing on transversal issues that are not specifically referable to a particular stage of the process
- **Describe the Use Case Scenario step by step (fiche by fiche!)**
 - Describe the case consistently with the Cycle designed, trying to detail as much as possible the issues related to each stage.
 - We prepared a slide in case you want to summarize the Use Case Scenario regarding the Implementation Cycle (2° cycle) in a unique form (but, if you prefer, you can detail it step by step)
- **Recommendations:**
 - Use Bullet Points as much as possible: it will help the following stages of organization of information gathered into sets of requirements
 - As you will see, it is possible to describe more than one possible use case scenario for the whole PB process as well as for each stage. My suggestion is to adopt (for the preliminary analysis) a single general scenario and eventually detail plural scenarios for the stages where plural possibilities are actually foreseeable.

Please remember that this is a proposal designed to standardize the collection of preliminary information: feel free to modify it by adding other data and information or propose other means to summarize the content of your Use Case Scenario.



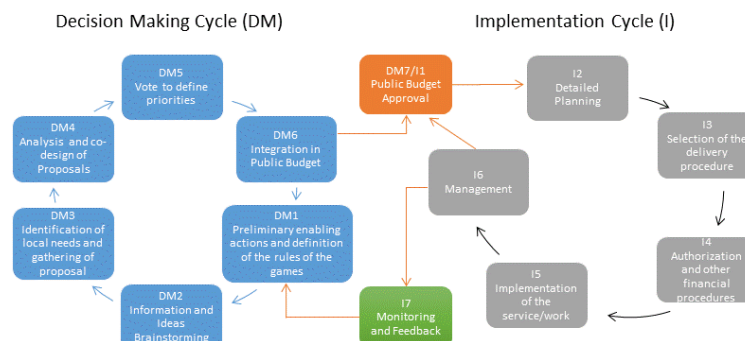
Design your PB process (State of the Art)



3

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Design your Cycle (Scenario, if different)



4

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Use Case Scenario: Main Issues

State of the Art: Describe how PB is currently carried out, defining where possible: <ul style="list-style-type: none"> - The channels used to engage citizens (i.e assemblies, focus groups, online forum; form online, mobile phones, etc) - The current use of ICT 	Use Case Scenario Describe how the integration of the EMPATIA platform could transform the PB case taking into account: <ul style="list-style-type: none"> - Desirable changes - Possible risks <p>If you think it is useful, you can add more than one alternative scenario</p>
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5



DM1
Preliminary enabling actions and definition of the rules of the games

Preparation of basic rules, including the "pot of money" set aside in the public budget, eligibility rules for project proposals, and rules and processes by which citizens will participate

State of the Art: Describe how PB is currently carried out, defining where possible: <ul style="list-style-type: none"> - The channels used to engage citizens (i.e assemblies, focus groups, online forum; form online, mobile phones, etc) - The current use of ICT 	Use Case Scenario Describe how the integration of the EMPATIA platform could transform the PB case taking into account: <ul style="list-style-type: none"> - Desirable changes - Possible risks <p>If you think it is useful, you can add more than one alternative scenario</p>
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6



Slide 6 is repeated for each stage of the PB cycle planned.

ANNEX C: IODP crowd mapping survey

In recent years we are observing that many cities are starting to integrate multiple channels of engagement, from public consultations, to issue reporting mechanisms. In some cities such integration is implemented via an office or a city unit that organizes all the engagement activities of the city, in some other cities the integration also makes use of a digital platform that collects and integrate all the data of participants, lastly in some other cities the engagement processes are kept separate.

At the same time we are also observing a patchwork diffusion of digital technologies for engagement. A lot of new tools have emerged some cities have experimented with some of them with different outcomes. In some cases these tools have been effective, in some other cases these tools were not so effective.

The objective of this exploratory survey is to gather information from the members of the IODP network about the current state of implementation of multi-channel engagement and the adoption of digital tools for engagement.

QUESTIONS

- 1) What engagement and participatory processes are being implemented in your city?
(Radio Buttons in each row)

	Face to face only, ICT is used only for informational purposes	Online process, the majority of the engagement process is conducted via a specific ICT platform (SMS or Web or app)	Hybrid process, the process has two mode of engagement one that is face-to-face and one that is facilitated by ICT	Other (please briefly explain how the process work)
City-wide Participatory budgeting				
District participatory budgeting				
Youth PB				
Participatory Urban Planning				
Public consultations on large public policies (e.g. citizens juries, town hall meetings, deliberative polls				

etc.)				
Consultations of civil society groups and organizations				
Issue reporting (e.g. fix my street, or telephone green line)				
Special programs to engage difficult to reach populations (e.g. homeless, drug addicts, prostitutes etc.)				
Citizen Science programs (for example to measure pollution)				
Micro-credit				
Small grant programs				
Hackatons				
Transparency & accountability programs				
Citizens' Score Card programs (for example citizens writes report on local health clinics functioning)				
Participatory monitoring programs (for example citizens participate in anti-corruption monitoring process)				
Other (please explain)				

- 1) What is the governance structure of the previous engagement processes in your city?
 - a. Different city offices have each their own engagement processes
 - b. There is a communication and engagement office that supports other city offices in their engagement practices
 - c. There is a centralized office that develops and manages the majority of engagement processes of the city.
 - d. Other
- 2) Do you have a platform for citizens' participation that goes beyond providing information online on these engagement processes?
 - a. No, online we only offer information, all our engagement processes are face-to-face
 - b. Yes, we have a website with various digital engagement processes in which the user can select the process they want to participate (for example decide.madrid.es).
 - c. Yes, we have different websites that offer separate digital participatory processes, for example we have an issue reporting software and a digital public consultation process (Boston Urban Mechanics).
 - d. other
- 3) Do you use other ICT technologies such as SMS base platforms or mobile phone apps?
 - a. SMS
 - b. App
 - c. Digital kiosks
 - d. Other
 - e. No
- 4) Did you experiment in the past with some ICT technology and then abandoned it because it was too costly or it had unintended consequences or it did not generate the results you were expecting?

➔ No, we never used ICT technology
➔ No, we use ICT technology, but we never abandoned a platform/solution
➔ No, we use ICT technology, but we abandoned a platform/solution simply because we updated/changed the technology
➔ Yes, we have abandoned a digital engagement technology because the gains were too small for the costs. (please explain)
➔ Yes, we abandoned a digital engagement technology because it only engaged a very small group of the population or a group of the population that was not diverse enough or a group that was already engaged (please explain)
➔ Yes, we abandoned a digital engagement technology because it did not achieved the results we wanted to achieve (please explain)
➔ Yes, we abandoned a digital engagement technology because it entered in conflict with face-to-face mechanisms of participation (please explain)
➔ Yes, we have abandoned a digital engagement technology because it had unintended consequences that conflicted with our objectives (please explain)
➔ Yes, we have abandoned a digital engagement technology, but for other reasons (please explain)

- 5) Would you be interested in participating in a IODP working group on multi-channel engagement and digital engagement technologies? [The working group would participate in a pilot study collecting and analysing the experiences of the members and then would contribute to the design of a larger survey for the entire IODP network]

ANNEX D: E-deliberation randomized controlled trial

This annex contains a spinoff EMPATIA project that was recently funded by the Templeton foundation and that will be conducted by Graham Smith a member of our research board. The project will explore different e-deliberation technologies with a large multi user testing. It will employ as integrator the EMPATIA platform. The grant was focused on e-deliberation in comments in online media thus the user testing will focus on such application, but the results will be relevant for any application of e-deliberation. The grant assigned 225000 USD to the project. The experiment will be deployed in the spring of 2018.

Introduction

The public sphere around media outlets offers many examples of dysfunctional behaviors that undercut the intellectual humility of public discourse. This is particularly the case with online public comments sections on news sites. This project aims at utilizing a large-scale field experiment to explore how media institutions can adapt e-deliberation platforms to promote more constructive and reasonable dialogue in news comments.

Project members

Core project team

PI: Graham Smith (University of Westminster). Specialist in democratic innovation and experienced research project director.

CoPI: Michael E. Morrell (University of Connecticut). Specialist in deliberation and empathy.

CoPI: Paolo Spada (University of Coimbra). Specialist in e-deliberation and experimental design.

Implementation consultants

Perry Walker (Talk Shop). Specialist in participatory events

Mark Klein (MIT idealab). Specialist in representation-centric platforms

Rachel Collinson (Xtraordinary Integrated Fundraising). Specialist in digital engagement

International research and practice board

Deliberative democracy: Andre Bachtiger (Stuttgart), Hélène Landemore (Yale), Mark Warren (UBC/Participedia)

Social psychology: Hugo Mercier (Neuchâtel)

Digital engagement: Tiago Peixoto (World Bank Digital Engagement Unit)

Technology: David Ascher (Mozilla), Audrie Tang (Taiwan's Digital Minister), Luis Cordero (EMPATIA), Luca Iandoli (Federico II University), Colin Megill (Pol.is & Coral)

Digital media studies and practice: Alfred Moore (Cambridge), John Naughton (Cambridge), Cynthia Farrar (Purple States TV)

Research questions

The central research question we will investigate is: **Can the online environment for news comments be designed to promote reason giving and intellectually humble discourse?**

Sub-questions that flow from this include:

- How does the design of the platform affect the nature of dialogue on news items?
- How does the inducement of empathy through perspective-taking instructions affect the nature of dialogue on news items?
- What metrics best capture the intellectual humility of dialogue in online interactions?
- How can e-deliberation platforms be integrated into the public engagement strategies of online news organizations?

Background and significance of the research questions

Online news comments tend to be relatively simple asynchronous threads that allow participants to add new comments or to respond directly to the comments of others (Mabande 2010). While these participatory platforms attract thousands of people everyday, they rarely manage to promote high quality discussion and intellectual humility. The existing literature that attempts to explain this phenomenon focuses mostly on the prevalence of incivility in comments (Coe et al 2014, Cheng et al 2015). Many studies investigate the detrimental effect of such incivility (Anderson et al. 2014; Rowe 2015; Rösner et al 2016), and what might foster more civil exchanges, from different authentication practices that alter the participants’ perceived anonymity (Santana, 2014; Fredheim et al. 2015), to more dialogic engagement (Stroud et al. 2015) and cognitive cues interventions (Manosevitch et al. 2014). We could find no research, however, that focuses on the impact of the design of these participatory spaces on specific metrics of intellectual humility and quality of discussion.

This is a surprising lacuna because a well-developed literature at the intersection of computer science and social science highlights how asynchronous conversation-centric tools identical to the ones used in online comments often promote dysfunctional emergent behaviors that can undercut deeply the quality of discourse. This includes strong group polarization (Sunstein 2006; Chen 2013), informational cascades (Hansen et al. 2013), low signal-to-noise ratio (Cotton and Yorke 2006), information overload (Losee 1989), and scattered content, redundancy, and non-collaborativeness (Klein et al. 2007). Recently, drawing on insights from the theory and practice of deliberative democracy, collective intelligence and informal logic, scholars and practitioners have begun to design and experiment with online platforms that aim to solve these problems, often promoting traits and behaviors associated with intellectually humble dialogue and high quality deliberation (Iandoli et al. 2014).

We are particularly interested in platforms that provide visual representations of dialogue as a key to promoting good deliberation. We believe that these *representation-centric collaborative platforms* can overcome the shortcomings of *conversation-centric tools* by supporting structured interaction and the creation of shared knowledge artefacts (Iandoli et al. 2015). Representation-centric collaborative platforms curate content by *topic* rather than by time, and represent a discussion as a map or network consisting of alternative *positions* on an issue and/or pro and con *arguments* for the proposed ideas.

Studies show that such representations encourage participants to clarify their thinking (Brna et al. 2001) and make it visible to others (Bell 1997); and foster information and knowledge awareness (Englemann and Hesse 2010), provide resources for conversation (Roschelle, 1996) and function as a ‘convergence artefact’ that expresses the group’s emerging shared understandings (Suthers 2001). By displaying knowledge in a ‘visual space’, argument maps have been found to support several cognitive as well as practical tasks such as sense-making (Okada and Buckingham Shum 2010), distributed decision-making (Karacapilidis and Papadias 2001), and problem-solving (Cho and Jonassen 2002). The visualization of competing positions and arguments may be suited particularly to fostering more reasonable dialogue on contentious issues (Spada et al. 2016).

While significant research explores the ability of representation-centric platforms to promote deliberations in small simulations and mini-publics (Gürkan et al. 2010), this project is novel in exploring the potential of adapting these tools to improve the intellectual humility of dialogue in online news commentary. The study will investigate the potential of two different platforms, *Deliberatorium* and *Poli.is*, that we have chosen because early pilots suggest their potential to cultivate intellectually humble discourse, and because they are designed to promote different forms of dialogue: *Deliberatorium* is more restrictive in its requirements of reason-giving; *Pol.is* more open to a broader range of dialogue types.

The *Deliberatorium* is one of the most flexible representation-centric platforms and is designed to enable the collaborative creation of an argument map that promotes dispassionate reasoning. De-

veloped by Mark Klein (MIT), it is based on the widely applied Issue-Based Information System (IBIS) argumentation formalism (Conklin 2006). The elements of an IBIS argument map are issues (or questions that need to be answered), ideas (or solutions to the issues) and arguments which support or object to a given idea or another argument. Users can participate by creating any of the elements allowed by the formalism or commenting on and asking for the modification of one element. The *Deliberatorium* includes an algorithm that suggests elements of the map that might be of interest to participants.

Pol.is, by comparison, emerged from the experience of Occupy Wall Street and is much simpler in character. Participants are not required to obey any formalism; rather they simply provide a comment or agree or disagree with other participants' content. A machine learning algorithm then generates a map that visualizes clusters of agreements, together with the connections among people. While not yet verified scientifically, the developers of *Pol.is* argue that it induces a more emotional understanding of the perspective of others, highlighting networks of opinion and allowing participants to reflect on and change their position within the network.

The extent to which these platforms can promote more intellectually humble discussion in the setting of news media comments is yet to be tested systematically. We are able, however, to draw on the experience of early field pilots in different domains. The *Deliberatorium* was used by 400 members of the Italian Democratic Party to debate a proposal for electoral reform (Klein et al. 2012b); *Pol.is* was used by a social movement in Taiwan (g0v) where 1,800 people contributed to the definition of an Uber regulation (Tang 2016, Allegretti et al 2016). Both pilots suggest the potential of representation-centric platforms to support more intellectually humble dialogue, but a systematic comparison of their capacities has not been undertaken.

In addition to investigating platform designs, we are also interested in the effects individual empathy may have on online discourse. Inducing empathy through perspective-taking instructions has a long history in social psychology (e.g., Batson et al. 1997; Davis et al. 2004; Stotland 1969); researchers have demonstrated that this can lead to lower attribution bias (Melburg et al. 1984), better outgroup evaluations (Galinsky and Moskowitz 2000), increases in helping others (Myers et al. 2014), less prejudice (Galinsky and Ku 2004), and reductions in everyday bad behaviors (Hodges et al. 2011).

Although scholars have not studied the relationship between empathy-induced perspective taking and intellectually humble dialogue, some have examined predispositions to empathy and deliberation. This research provides evidence that individuals high on perspective-taking (Davis 1980) are more tolerant when exposed to rationales for dissonant views (Mutz 2006), and groups composed of individuals high in empathic concern and perspective-taking demonstrate more open-mindedness, mutual respect, and commitment to continued deliberation (Morrell 2010). These studies suggest that empathy can encourage intellectually humble public discourse.

This project will be the first field experiment to compare and contrast the performance of different online designs, including structures of comment platforms and empathy induction through perspective-taking instructions, in creating a space for more thoughtful, reasonable and intellectually humble discourse about pressing issues of public concern.

Congruence of the project with the RFP goals

News comments sections of media outlets are a prominent public space that realize to an unfortunate extent the range of 'traits and behaviors opposed to intellectual humility' that are laid out in the RFP: 'closed-mindedness, overconfidence in one's opinions and intellectual powers, dogmatism, an exaggerated sense of intellectual autonomy, reluctance to pursue and consider new evidence, intel-

lectual arrogance, and intellectual vanity.’ In experimenting with emerging representation-centric platforms, the project aims to demonstrate ‘clear strategies for promoting intellectual humility in public discourse’. On the one hand, the project will generate novel and rigorous academic research that will contribute to the debate on the impact of platform design and individual empathy on intellectual humility and quality of deliberation in online news comments. On the other hand, the project will also generate practical evidence for media outlets on how to improve their comments platforms to support more constructive dialogue about divisive issues by ‘developing a scalable model’ of how e-deliberation platforms can be utilized and ‘assessing the success and impact’ of these platforms through a suite of metrics. These findings will have broader application, beyond news outlets, for institutions using similar engagement platforms.

This proposal is an explicit response to core topics raised within the RFP. In relation to Question 1, it investigates the characteristics of online engagement that aim to ‘overcome the barriers that prevent people from engaging in open-minded, intellectually humble dialogue over socially and culturally divisive issues’. The RFP specifically highlights media institutions, and our focus on the design and practice of news comments is part of the process by which this important element of media practice can ‘be structured to promote more constructive, and less strident, dialogue over issues of ultimate concern’. In relation to Question 2, the focus on the integration of e-deliberation platforms into news commentary means that the project will offer scalable interventions that aim to be ‘effective...in promoting more reason-based, intellectually humble dialogue’. In analyzing the relative merits of the platforms, the project will also field test a set of ‘metrics...to determine when and why there is a lack (or abundance) of intellectual humility and meaningful public discourse over particular divisive issues’.

Key research hypotheses

Drawing from existing theoretical and empirical work on online platforms, the two pilot studies, and previous research on empathy, we expect that both representation-centric platforms will encourage more behaviors and traits associated with intellectual humility than a status quo platform similar to those adopted by the Guardian and New York Times. We expect that the more structured form of dialogue generated by the *Deliberatorium*, since it reduces the emotional import of deliberation, will encourage these behaviours and traits to a greater extent than the more open *Pol.is* platform. Finally, we expect that inducing empathy will increase intellectually humble discourse across all platforms. Our key working hypotheses are thus:

H1. Deliberatorium will encourage more intellectually humble dialogue than Pol.is.

H2. Pol.is will encourage more intellectually humble dialogue than status quo technology.

H3. Inducing empathy in individuals through perspective-taking instructions will increase intellectually humble dialogue.

In addition to testing these hypotheses, we will also investigate interaction effects between platform design and empathy inducement.

Methodology

This project will utilize a large-scale, 3x2 fully factorial field experiment. The first factor will be platform design (Deliberatorium/Pol.is/control) and the second empathy induction (perspective-taking instructions/no perspective-taking instructions). Only through such experimental design can we assess and compare systematically the potential of the two representation-centric platforms and the empathy inducing perspective-taking instructions to encourage intellectually humble discourse in news commentary.

We will recruit subjects through a global engagement process managed by Rachel Collinson inviting readers of major national newspapers and interested individuals to participate in an experiment to explore the future of public engagement with news media. It will use a combination of Facebook and Google ads that target individuals with specific interests, and a more traditional outreach strategy focusing on the numerous associations and online groups interested in e-deliberation, media, journalism and innovative discussion technologies. We will leverage the extensive networks of the Mozilla Foundation, the Coral Project, Participedia, EMPATIA and g0v to reach out to practitioners, scholars and technologists who can amplify our message to interested citizens. Potential participants will enroll on a dedicated project website where we will administer a pre-test survey that will include demographic questions and measures of participants' intellectual humility, empathy and familiarity with online deliberations.

Our realistic expectation is that we can achieve a sample of at least 3,000 participants. The pilots of the two platforms in Italy and Taiwan generated 600 and 1,800 participants, respectively, without professional advertising and with samples drawn from smaller populations. This study's population of English speakers in the world is larger and we have a dedicated advertising budget, experienced engagement consultant and significant global networks. It is not unreasonable to expect a number greater than 3,000, in which case we will increase the size and number of experimental discussion groups, improving our ability to test our research questions.

Assuming an enrollment of 3,000, we will randomly assign participants to 30 groups of 100 participants each with stratification based upon gender, age, education and intellectual humility. We will then randomly assign these thirty groups to participate in one of the following simulated online newspaper discussion platforms:

- (1) a control platform that mimics the environment currently used by newspapers such as the Guardian and the New York Times;
- (2) an adaptation of the *Deliberatorium* platform;
- (3) an adaptation of the *Pol.is* platform.

Within each platform, we will randomly assign half the groups to the empathy-inducing treatment by providing individuals with perspective-taking instructions.

In each environment the participants will read news articles generated by the members of our supporting network of journalists, scholars and bloggers; each platform will also include space for comments and deliberation. The articles will cover a varying range of political subjects that are timely and salient globally. All groups will be exposed to the same articles to control for topic effects.

Replicating the successful experience of the Italian and Taiwanese pilots, we plan to engage participants over an 8-week period, during which time subjects' interactions with the platforms will be tracked. Participants will be surveyed before, at the end, and at various points during the process as well as 6 months after the completion of the experiment. The practice of multi-wave surveying allows evaluation of the development of and changes in attitudes and characteristics relevant to intellectual humility *during* the process that a simple pre/post design would miss. The 6-month survey will measure persistence of treatment effects. Surveys will not only focus on metrics of intellectual humility, but also user experience and usability of the platforms to inform future design.

In adapting a suite of measures for the analysis of online engagement, we conceptualize intellectual humility as a 'polythetic concept', where members of a class have shared characteristics, none of which are necessary and sufficient properties (Kellenberger 2010, 324). Lynch et al. (n.d.) argue that there are two 'camps' of thinking on intellectual humility (IH): 'IH realism' views it as 'a distinct and unified kind of psychological trait', while 'IH pluralism' sees intellectual humility as naming 'a cluster

or family of features that are domain-specific in their application’ (Lynch et al. n.d., 2). Our view is consonant with the latter approach, and since the domain of this study is public discourse surrounding news reporting, it resonates with Button’s idea of ‘democratic humility’, in ‘which we allow that which is outside of the self or group to enter in and work upon us, at least for a time’; this involves ‘cognitive/affective openness’ and ‘a spirit of attentiveness and active listening’ to others (2005, 850). Key elements of humility in this vein mirror many of those offered by Tangney: an accurate assessment of one’s abilities; an ability to acknowledge one’s gaps in knowledge and limitations; openness to new ideas, contradictory information, and advice; and an appreciation of the many different ways that people and things can contribute to the world (2009, 483). Although platform designers have not engaged with the research on intellectual humility, this conceptualization resonates with their approaches to public deliberation, and it is thus uniquely appropriate to this study.

Risk management and research ethics

We will seek approval for all research through the the University of Westminster's Research Ethics and Governance Frameworks and the University of Connecticut's Institutional Review Board.

Project timeline

In delivering the field experiment, the project can be divided into three phases: (1) preparation; (2) experiment; (3) analysis and knowledge transfer.

1. Preparation (January to December 2017)

The year-long preparation phase focuses on four elements: user testing of the news comments interface platforms, adaptation and verification of measurement items, creation of promotional materials, and platform facilitator training.

Initial design options (January to May 2017)

Spada will lead the work with our design consultants and specialists on the interdisciplinary advisory board to develop feasible options for how the representation-centric platforms can be integrated into the news comments environment of media organizations. Design options will be generated through a series of online workshops following an established procedure that we have already successfully implemented in previous large international projects to collect feedback and ideas from pro-bono collaborators. The project has selected partners with different sets of skills and capacities to advise in the design process:

- Mark Klein, MIT Center for Collective Intelligence, developer of *Deliberatorium*, draws on extensive experience designing representation centric platforms.
- David Asher, former CEO of Mozilla messaging, draws on extensive experience in open source software development.
- Audrie Tang, digital minister of Taiwan, developer of *vTaiwan* and activist in g0v (a global online community dedicated to new forms of digital democracy).
- Luis Cordero, expert in system integration; currently working with the EMPATIA consortium developing a platform to integrate multiple engagement tools.
- Prof. Luca Iandoli, expert in digital platform ergonomics.
- Colin Megill, CEO of Pol.is and front-end developer of Coral.

User experience testing and measurement adaptation (June to October 2017)

The initial platform options will be tested and developed further in light of the input from different user groups. A series of separate participatory design events will be held with citizens, journalists and

media technology specialists. A larger event with technology experts will be hosted at the Mozilla Festival in London (October 2017). Each activity will be followed by individual user experience (UX) testing sessions. The delivery of these participatory events will be supported by one of our implementation consultants, Perry Walker, who has extensive experience in participatory design work. This will be complemented with engagement with the online Coral project community that includes more than 250 practitioners, many working as community managers or technology developers in international media organisations. Overall, the process will generate insights into the needs and expectations of different stakeholders in the process – citizens, journalists, technologists – and will inform the final adaptation of *Deliberatorium* and *Pol.is* for the online news environment.

Running alongside the platform testing, Morrell will lead the adaptation of a suite of measures designed specifically for analyzing intellectual humility in online platforms. We plan to make use of previous work funded by the Templeton Foundation, including the General Intellectual Humility Scale (Leary et al. 2016) and the Comprehensive Intellectual Humility Scale (Krumrei-Mancuso and Rouse 2016). Group level metrics will also draw on the work of Klein (2012a), whose research in web science focuses on developing metrics and tracking algorithms for representation-centric platforms. The first deliverable of the project will be an adapted set of thoroughly-tested metrics useful for evaluating intellectual humility during online discussions.

Facilitator training and final testing (November-December 2017)

Drawing on the lessons from the user experience testing, a final beta design for both platforms will be developed. At the same time, we will train volunteer facilitators for the experiment. These facilitators will be recruited from graduate students in universities and online communities who members of the research team have already worked with in past experiments. The facilitators will then conduct a final test of the platform with undergraduates from the Universities of Connecticut and Westminster acting as participants as part of relevant teaching modules.

Members of the research board and extended support network will be invited to explore the platforms before the experiment begins as part of the final testing and will be encouraged to write blogs and articles about the experiment to contribute to the engagement campaign.

Preparation of promotional material and engagement campaign planning (June to December 2017)

The preparation phase will provide an opportunity to raise the profile of the project amongst prominent journalists, media experts, participation experts, technologists, anti-troll movements and other actors interested in improving online discussion. This engagement will be important for the long-term impact of the project, but also provide a source of textual and video endorsements that can be used during the engagement campaign. During this period Bugleux, a video artist, will develop short video promos and other material for engagement in collaboration with Collinson, a veteran of the online engagement industry and currently one of the trainers of the FairSay e-campaigning forum, one of the oldest community of digital campaigners.

2. Experimental phase (January to April 2018)

The first two months of this period will focus on recruiting experimental subjects. The second two months will be dedicated to the implementation of the experiment.

3. Data analysis, writing and knowledge transfer (May to December 2018)

In the final phase of the project, our focus turns to the statistical analysis of the data collected and the production of deliverables. We plan to present the results of our experiment at international social science conferences and at technologist and practitioner events and conferences in the US and in Europe.

The core project team aims to generate five types of deliverable:

- Academic publications – a substantive findings paper to be submitted to leading US political science journal; a paper on the design process for a leading ICT journal; a methodological paper for a research methods journal.

- Media – policy brief, video and events with media outlets to promote key findings and recommendations.
- Software – two open source platforms for news comments
- Metrics – a field tested set of metrics for the analysis of intellectual humility at the individual and group level in online environments.
- Open access database – the anonymized data will be housed on the repository of Participedia to ensure the widest access by the academic and other research communities.

Giving our interdisciplinary board early access to the the data to conduct analysis will extend the reach of the project. Additional deliverables will relate to platform development and ergonomics (Klein, Tang, Cordero, Iandoli, and Megill) and deliberative democracy (Landemore, Bachtiger, Farrar, Moore). We will exploit the various networks of the research and practice board, including Coral, EMPATIA, g0v Mozilla and Participedia to ensure the widest dissemination of knowledge.

Concluding remarks

This project is novel in its ambition to adapt representation-centric collaborative platforms to improve the intellectual humility of public discourse in online news comments. The experimental design not only promises to generate high quality social scientific knowledge, but the development of a scalable model for how news media institutions (and others) can incorporate comment platforms that promote reason-based, intellectually humble dialogue.