



Raising Open and User-friendly Transparency- Enabling Technologies for Public Administrations



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EXECUTIVE SUMMARY

ROUTE-TO-PA (Raising Open and User-friendly Transparency-Enabling Technologies for Public Administration) is an innovation project focused on improving the impact, towards citizens and within society, of ICT-based technology platforms for transparency. The objectives of Route-To-PA are: (1) develop a Social Platform for Open Data (SPOD) enabling social interactions among open data users and between open data users and government data; (2) build Transparency-Enhancing Toolset (TET) as extensions for existing major Open Data Platforms; and (3) develop a set of recommendations (GUIDE) as good practice guide for open data publishers for achieving higher quality transparency through open data.

This document presents work carried out by the ROUTE-TO-PA consortium during months 4-12 of the ROUTE-TO-PA project, in order to carry out Task 3.1 of workpackage 3 (“Methods and Models”): “Societal model of activity relating to use of open data”. The work of workpackage 3 complements workpackage 2 (user requirements) and is pivotal for workpackage 4 (Technological Development and Integration) and workpackage 5 (Evaluation, verification and validation) in that it will provide the theoretical and methodological foundations for a) understanding the context of the activity, the use of open data, as part of the design of innovative and engaging social platforms and b) as well as for defining methods for evaluating and understanding the project’s outcomes.

Deliverable 3.1 involved the development of a model, on societal and organizational levels, of the overall processes by which data is provided and used: The Societal Activity model of Open Data use. The purpose of the model is to enhance our understanding of the user requirements of open data in a societal context. The model helps to find the best fit between; on the one hand, the impetus for governmental organizations to provide open data, to increase accountability and transparency, and the specific needs of citizen-users in particular domains. This involved representing what is at stake for open data provider organizations, the processes by which this data is (or is not) made available, the motivations and organizational representations of this activity, and, on the other hand, understanding the needs and motivations of citizen-users. The model was developed based on the literature and tested in five pilot sites, using interviews, analysis of official documents (where available), and workshops or focus groups where open-data providers and users met and discussed.

This document followed a top down approach. It identified three democratic traditions: monitorial, deliberative and participatory. In each tradition both citizens and public administrators have different roles. At the organizational level, the varieties of transparency were examined and the concepts of participation and collaboration as part of an open government were explained. Both the democratic traditions and organizational components were taken into account as being part of the context in which the activity, the use of open data, takes place. The use of open data by citizen users and public administration-users were considered as two separate activity systems, interacting together in a network. This resulted in the Societal Activity model of Open data use.

The model provides a heuristic guide that enables the project to understand who it is we are addressing, their needs, motivations and constraints.

1 INTRODUCTION

Recently, many governments have worked to increase openness and transparency in their actions. Information and communication technologies (ICTs) are seen by many as cost-effective and convenient means to improve transparent publication of government data and faster commenting on that data (Noveck, 2009; Bertot et al, 2010). Public organizations possess all sorts of datasets (De Hoog, Van Twist, Meijer, Van der Steen, & Scherpenisse, 2012; Meijer, Curtin, & Hillebrandt, 2012) and increasing pressure is being placed on government organizations to release their datasets (Janssen et al., 2012). Typically these datasets are published on a government data portal (Attard, Orlandi, Scerri, & Auer, 2015).

Open data can foster democratic processes by promoting transparency (Kassen, 2013). Datasets can be used for public policy development and services delivery but they are also valuable to citizens, organizations and businesses (Janssen, 2011). However, several barriers such as limited organizational resources and budget, legislative frameworks, information quality, lack of usability and technical issues, hamper the full potential of open data (Janssen, Charalabidis, & Zuiderwijk, 2012; Attard, Orlandi, Scerri, & Auer, 2015). For open data to be effective the focus should both be on government agencies as the providers of data, and on users who should be able to process, digest and use the information (Heald, 2006; Meijer, 2013).

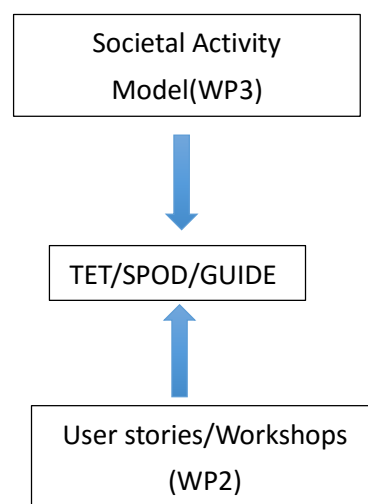
To facilitate these processes, the multidisciplinary innovation project ROUTE-TO-PA envisions that ICT's can improve the engagement of citizens by making them able to socially interact over open data, by forming or joining existing online communities that share common interests and discuss common issues of relevance to local policy, service delivery, and regulation. Currently, social media features of open data portals are limited to discussion about datasets with no integration between open data and social networking platforms (Osagie, Mohammad, Stasiewicz, Hassan, Prowol, & Ojo, 2015). Most portals only allow users to simply download the available data with no option of exploring it directly through the portal e.g. visualization (Attard, Orlandi, Scerri, & Auer, 2015). In addition, ROUTE-TO-PA aims at engaging citizens to a higher degree by facilitating better understanding of open data. Therefore, ROUTE-TO-PA will design a Social Platform for Open Data (SPOD) enabling social interactions among open data users and between open data users and government data. It will also build Transparency Enhancing Toolset (TET) as extensions for existing major open data platforms. In addition, ROUTE-TO-PA will develop a set of recommendations (GUIDE) as good practice guide for open data publishers for achieving higher quality transparency through open data.

In the literature we find that several scholars (Lourenço, 2015) have focused on *user requirements* for the design of ICT platforms. However, in order to design and implement a successful ICT platform next to user requirements, "the context" that includes people and their relations (Kuuti, 1999) needs to be taken into account as well. Information technologies should be able to support active users, while dealing with the organizational and societal context (Kuuti, 1999). Yet, often this context of broader social forces and structures that influences the interaction between users and information technology, is left unexamined (Engeström, 2005). This document will focus on that context. More specifically, this document focuses both on the impetus for government to provide open data to increase transparency as well as on the specific needs of citizen-users in particular domains, thereby taking into account organizational and democratic conditions. In order to find the best fit a systemic model will be developed.

In this document we will build upon several strands of literature. At the societal level we will build both on democratic and on transparency literature and theory to be able to understand the context of the use of open data. Furthermore, we will build on Activity Theory. Activity Theory has been used as a framework for human computer interaction research (Kuuti, 1996) and for analysing needs, tasks and outcomes for designing constructivist-learning environments (Jonassen & Rohrer-Murphy, 1999). Moreover, Activity Theory can be used to better understand human activities within social and organizational contexts (Ojo, Janowski, & Estevez, 2011). Jonassen and Rohrer-Murphy (1999, p. 62) indicate that in order to be able to enhance our understanding of the use of open data, we must examine the activities that people engage in, who is engaging in that activity and what their goals and intentions are, what objects or products result from the activity, the rules and norms that circumscribe the activity and the larger community in which the activity occurs (Jonassen & Rohrer-Murphy, 1999, p. 62). Thus, in this document we analyse the context of the activity (the use of open data) as part of the design of innovative and engaging social platforms. This context is not just seen as one between government and individual citizens but between government and networks of citizens, communities that collectively attribute meanings to the information. This will result in the Societal Activity model of Open Data use.

The purpose of this model is to enhance our understanding of open data use in a societal context. Ojo, Prowol, Adebayo, & Hogan (2015) distinguish four transparency views: Mechanism View, Formism View, Organicism View and Contextualism View. The Societal Activity Model of Open Data use falls within the last category, which focuses on the different contexts under which transparency could be studied. Combined with the analysis of user and system requirements (WP2), the model will provide input for the *design* of the Transparency Enhancing Toolset (TET) and Social Platform for Open Data (SPOD) (WP4) and for GUIDE. The Societal Activity model complements WP2. Whereas the analysis of user and system requirements (WP2) follows a bottom-up approach, the Societal Activity model takes a top-down approach thereby emphasizing users in a democratic and organizational context as starting point for the design of TET and SPOD (Figure 1). After all, ‘activity systems are driven by communal motives that are often difficult to articulate for individual participants.’ (Engeström, 2000, p. 960).

Figure 1 : Top down approach



In addition, the model will be used as one basis for defining criteria for *evaluating* the performance of the TET and the SPOD (WP5). Activity Theory highlights that transformations take place through cycles of expansive learning (Engeström, 2000, p. 960). These cycles will be analysed and studied in WP5. The model is of a *heuristic*

rather than an explanatory nature: it helps to understand the relations between the different variables and it helps to facilitate the design and evaluation of TET and SPOD.

Hence, the aim of this document is twofold:

- First, it will increase our understanding of the interplay between social actors in the provision and use of open data, what is at stake for them, their motivations, needs, constraints and systems of ideas.
- Second, the model developed will provide a heuristic guide for platform designs opportunities, GUIDE, as well as a tool for evaluating of TET and SPOD.

Consequently, the guiding question of this document is:

- How can we model the societal activities associated with open data usage that are to be supported by TET and SPOD and included in GUIDE?

The societal model described here, developed during the first year of the ROUTE-TO-PA project, will form the basis for integrating two further models (Workpackage 3.2 and 3.3.), to be developed during years 2 and 3: the *community model* (of action, interaction and collaboration between social actors concerned with open data production and use, mediated by the SPOD and TET tools) and the *social representation model* (focusing on the evolution of individuals' representations of Public Administrations, revolving around the elements into which the concept of "transparency" can be analyzed).

This document is structured as follows. First, drawing on literature on democracy, organizations and transparency, the societal context of the use of open data will be outlined. Second, Activity Theory will be described. Third, based on these strands of literature, the Societal Activity model of Open Data use will be developed. Fourth, the model will be tested in five pilot cases across four European countries. Finally, based on the Societal Activity model the implications for the design of TED and SPOD will be described as well as the implications for GUIDE and the consequences for the evaluation of TET and SPOD.

2 THE SOCIETAL CONTEXT

Before developing the model, we will first analyse the use of open data in a societal and organizational context. We will build on two strands of literature. First of all, we will draw on democratic theory. Democracies depend on information in order to function (Harrison & Sayogo, 2014). It requires a system for the flow of information (Strömbäck, 2005, p. 332). It is however well known in political science that democracy, as a concept is not one-dimensional (Strömbäck, 2005, p. 332). There is not one model of democracy but there are several (Strömbäck, 2005, p. 332). As Van den Hoven (2005, p. 51) points out “different conceptions of democracy require different IT tools (...) and have different patterns of usage associated with them”. Second, at the organizational level, transparency and open government research can provide insight in the provision of open data by government agencies and the citizen-user needs of open data. Government agencies might be at different stages in their efforts to promote openness (Lee & Kwak, 2012). These different stages could have implications for the design of an open data platform.

2.1 THREE DEMOCRATIC PROCESSES

We distinguish three democratic processes: monitorial, deliberative and participatory democracy. In the following, we will briefly describe each of these processes, the expected role of citizens, the role of government, and how open data can contribute to the flow of information.

2.1.1 MONITORIAL DEMOCRACY

The basic idea of monitorial democracy (Keane, 2009; Schudson, 1999) is that government obtains a mandate from the people to rule but the way this mandate is used is monitored and the mandate can be revoked if it is abused. It is a form of democracy in which power-monitoring and power-controlling devices have perpetrated government and society (Keane, 2009).

Citizens monitor the environment and are watchful (Schudson, 1999, p. 311). It does not imply that citizens should know all the issues all the time (Schudson, 2000). As Schudson (2000, p. 16) puts it:

“It implies that they should be informed enough and alert enough to identify danger to their personal good and danger to the public good. When such danger appears on the horizon, they should have the resources—in trusted relationships, in political parties and elected officials, in relationships to interest groups and other trustees of their concerns, in knowledge of and access to the courts as well as the electoral system, and in relevant information sources to jump into the political fray and make a lot of noise.”

Citizens are aware that they need to keep a watchful eye on politics but allow intermediary institutions to play the most important role (Schudson, 1999, p. 310). The media in this context is to serve as a fire-alarm (Coleman & Moss, 2012, p. 2) or “burglar alarm” (Zaller, 2003) to alert citizens to matters requiring urgent attention. The focus is on what information citizens need in order to hold officials accountable in elections (Zaller, 2003). Monitoring is crucial for reducing corruption and agency-drift: if citizens can monitor how officials spend money and allocate resources they can monitor whether this is in line with legal rules and the will of the people. Monitoring can occur individually e.g. by a journalist or collectively by e.g. an action group.

The role of the government is to disclose information, either proactively on its own initiative, or reactively based

on a freedom of information request (Ruijter, 2013; Meijer, Curtin, & Hillebrandt, 2012). Disclosure can also be used as an instrument of compliance, which Meijer and Homburg (2009) describe as the “pillory.” “The “pillory” aims to inform and activate stakeholder environments of companies and, in so doing, encourage them for better compliance (Meijer & Homburg, 2009, p. 263)”

In a monitorial democracy, an open data platform could strengthening access to government information so that citizens are able to scrutinize it.

2.1.2 DELIBERATIVE DEMOCRACY

Deliberative democracy highlights that an open debate is needed to find collective solutions to societal problems (Habermas, 1989). In this condition, deliberation, rather than voting, is seen as the central mechanism for political decision-making (Meijer, 2012, p. 305). Viewpoints and information from a variety of angles are needed to discuss different options and to find an optimal solution. For discussions to be deliberative, all participants should “foster values such as trust, integrity and tolerance, as well as behaviors such as listening, reflecting and getting the facts right. Also a willingness to change views and opinions must exist” (Strömbäck, 2005, p. 337). Deliberation is focused on opinion formation and the general will (Noveck, 2009, p. 39).

The role of citizens is one of partner in deliberation. As Noveck (2009, p. 38) points out it focuses on citizens discussing their views about what government should or should not do. This role implies that citizens are indirectly related to decision-making and action (Noveck, 2009). Furthermore, citizens should be interested and engaged (Strömbäck, 2005). Their role is trying to find the information necessary to understand particular issues and they should be willing to participate in discussions (Strömbäck, 2005). It requires commitment to the public cause, which according to Van den Hoven (2005) can be time consuming and the average citizen might not always be willing to deliver. The input from more citizens is expected to result in better-argued and more legitimate government policies.

The role of government is to invite citizens to present their opinions and perspectives on issues. ICT’s can facilitate the possibilities of sharing one’s opinions and ideas; engage in debates and exchanging opinions (Van den Hoven, 2005). Governments coordinating a platform should examine every suggestion and give precise feedback why certain ideas or parts of it cannot be implemented (Wijnhoven, Ehrenhard, & Kuhn, Open government objectives and participation motivations, 2015). This according to Wijnhoven, Ehrenhard, & Kuhn (2015, p. 39) is based on the fact that participants are more likely to engage if they believe that their ideas and suggestions will be implemented correctly and with caution.

ICT’s and open data could strengthen a deliberative democracy by creating a level playing field for all participants in the public debate and engaging citizens (Meijer, 2012).

2.1.3 PARTICIPATORY DEMOCRACY

A participatory democracy puts an emphasis on collective action and collaboration. The basic idea of a participatory democracy is that citizens do not only give a mandate to government but they can also actively

engage and collaborate directly in the solution of societal problems, the production of services and policies and the implementation of policies in a variety of policy domains (Strömbäck, 2005; Meijer, 2012). Collaboration occurs throughout the decision-making process (Noveck, 2009). Meijer et al. (2009) distinguish three types of participation: political participation, policy participation and social participation. Political participation refers to citizens participating in political agenda setting and decision-making. Policy participation refers to citizen input in government policy implementation. Social participation relates to the extent to which citizens may vary in their systems for social support and involvement in society (Meijer, Burger, & Ebbers, 2009; Meijer, 2012). Citizens in this democratic condition are not (only) seen as voters but (also) as problem solvers and co-creators of public goods. Citizens can become volunteers of the police, set up helpdesks for tax declarations, help to clean their neighborhoods etc. (Boyte, 2005). Citizens can contribute their expertise and thereby realizing the opportunity to be powerful (Noveck, 2009).

For the role of government this means a shift from provider of services to partner (Boyte, 2005). Co-production refers to the provision of goods and services through long-term relationships between professionalized service providers and service users or other members of the community, where all members make a substantial contribution (Bovaird, 2007, p. 847). This democratic process is sometimes also referred to as a Do-It-Yourself-State (Meijer, 2012): state activities are not (only) to be conducted by government officials but also by and in cooperation with active citizens, or collaborative democracy (Noveck, 2009).

In a participatory democracy, an open data platform should be regarded as a resource that can be used to develop new solutions for collective problems. Technology can facilitate collaborative practices for gathering and evaluating information and transforming raw data into useful knowledge (Noveck, 2009, p. 21) It can contribute to political, policy and social participation, by respectively aiming at influencing decision-making and agenda-setting, the realization of government policy goals and constructing social capital: connections with and between social networks are supported by interactions on the platform. (Meijer, Burger, & Ebbers,

2.1.4 DEMOCRACY AS A MULTI-DIMENSIONAL CONCEPT

Hence, the assumption in this project is that open data can contribute to a 'strong democracy'. Democracy is not a one-dimensional concept. Citizens and governments have different roles in different democratic concepts. An open data platform should be able to contribute to and facilitate these processes. However, it should be noted that these democratic processes are interconnected; but certain mechanisms may be more dominant in certain contexts. Next we will turn to the organizational level.

2.2 ORGANIZATIONAL LEVEL

The open data movement has spread throughout many countries (Lourenço, 2015). Open data can promote an open government (Lourenço, 2015; Lathrop & Ruma, 2010; Noveck, The single point of failure, 2010). Open government is widely understood as the leveraging of information technologies to generate participatory, collaborative dialogue between citizens and policymakers (Evans & Campos, 2013, p. 173). Currently 66 countries are participating in the Open Government Partnership initiative (www.opengovpartnership.org). Participating governments thereby commit themselves to enhancing access to information by publishing data, enhancing public participation and greater collaboration between governments, civil societies and businesses via new

technologies (Open Government Partnership, 2011). However agencies might be at different stages of promoting openness. Below we will further elaborate on these values and their consequences for the role of government and citizens.

2.1.1 TRANSPARENCY

Transparency at the organizational or institutional level can be defined as “the availability of information about an organization or actor allowing external actors to *monitor* the internal workings or performance of that organization” (Girmelikhuijsen & Meijer, 2014, p. 3). Transparency implies not just access to data but also the use, reuse and distribution of data (Attard, Orlandi, Scerri, & Auer, 2015).

Heald (2006; 2012) distinguishes event and process transparency with reference to public service production (see also Girmelikhuijsen, 2012). In the case of event transparency the objects of transparency can be public service inputs, outputs or outcomes on the assumption that these are externally visible and measurable. Events are linked by processes. Processes refer to procedural (rules and procedures adopted by an organization) and operational components (application of the rules to particular cases (Heald, 2006). It refers to government rules, regulations and procedures and other factors may facilitate but can also hinder the release of data. For example based on the Freedom of information legislation, some datasets might be open to the public while others are not. Furthermore, organizations may have concerns that transparency will lead to government procedures being misrepresented by third parties and/or used by third parties as operational levers to expose matters (Heald, 2006). This may lead to transparency blame-avoidance strategies that focus on the handling of political risk and how the management of that type of risk shapes organizational architecture and operating routines e.g. avoiding disclosure requirements, avoidance of record-keeping and manipulation of performance numbers (Hood, 2007).

In addition, Heald (2006) distinguishes nominal versus effective transparency. Numerous datasets can be released, but will that actually lead to more transparency? Heald (2006) describes “transparency illusion” as the gap between the path of nominal and effective transparency. For transparency to be effective there must be *citizens* capable of processing, digesting and using open data (Heald, 2006). This brings us to the importance of user requirements such as the usability and comprehensibility, value and usefulness of the data (Lourenço, 2015). Finally, Heald (2006) distinguishes between transparency in retrospect and in real time. Transparency in retrospect allows an organization to release information at periodic intervals whereas with transparency in real time the window is always open.

2.2.1 PARTICIPATION

Participation is another component of an open government. Citizens need information to *see* what is going on inside government organizations and they need to participate to *voice* their opinions (Meijer et al. 2012, p. 11). Through the publishing of government data citizens are given the opportunity to actively participate in government processes such as decision-making and policy-making (Attard, Orlandi, Scerri, & Auer, 2015). Open data and internet platforms can make it easier for citizens, organizations and businesses to articulate their opinions and interact with others in their community (Wijnhoven, Ehrenhard, & Kuhn, 2015; Janssen K. , 2011). It provides citizens the opportunity to scrutinize and reuse the data by e.g. identifying patterns in the data and creating new services and provide feedback on government actions (Attard, Orlandi, Scerri, & Auer, 2015). Ideas from citizens on open innovation platforms can be as valuable as from professionals (Poetz & Schreier, 2012). This however assumes that citizens are *willing* to use open data and platforms in order to participate. Yet, Wijnhoven et al., (2015) show in their study that motivational factors to participate differ between open government projects. Projects with lower ambitions result in more participation than more ambitious projects. One reason

for this was that the latter projects were seen as too complicated and people believed that they did not have the knowledge to contribute. Their study shows that when citizens feel that their contribution to open government projects is really meaningful they will be more motivated to engage. Thus the degree of participation may vary per policy domain.

2.2.2 COLLABORATION

Collaboration refers to public engagement in complex tasks or projects that aim to co-create specific outputs (Lee & Kwak, 2012; Bovaird, 2007). Government collaboration involves the collaboration of different entities during the implementation, monitoring and evaluation of policies (Attard, Orlandi, Scerri, & Auer, 2015). Collaboration takes place through active and real time interactions between an entity and its stakeholders (Bonson, Torres, Royo, & Flores, 2012): citizens collaborate with government or government agencies collaborate with one another (Sandoval-Almazan & Gil-Garcia, 2012). It “catalyzes new problem-solving strategies, in which public and private sector organizations and individuals solve social problems collectively” (Noveck, 2009, p. xiii). Collaboration is necessary to generate creative solutions to challenges and to share the work of oversight and accountability (Noveck, 2009). Open data and Internet platforms can make it easier for citizens, organizations and businesses to interact but also to collaborate with government organizations (Wijnhoven, Ehrenhard, & Kuhn, 2015; Janssen K. , 2011; Attard, Orlandi, Scerri, & Auer, 2015). With new technologies government could for instance formulate a problem and work with citizens to coordinate a solution among and across government institutions and with companies, nonprofit organization and individuals (Noveck, 2009).

2.2.3 INTEGRATION OF COMPONENTS

In the above, the components of open government were described as separate constructs. Yet as Lee and Kwak (2012) point out data transparency can be an important enabler for open participation and collaboration. Open data must be transparent, accessible, searchable and usable, to lend itself to participation or collaboration (Noveck, 2009, p. 22). These concepts are in line with the democratic processes indicated in the former section in which transparency is important for monitorial processes, participation for deliberative processes and collaboration for participatory processes.

Lee and Kwak (2012) propose several stages at the organizational level, from:

- (1) *initial conditions* where there are no or few open government capabilities and only limited data is made available online,
- (2) to *data transparency* where agencies publish high value and high impact data sets,
- (3) to *open participation* of the public in government work and decision through various methods and tools fostering the connection of people and help share ideas like user created contents are posted and shared,
- (4) to *open collaboration* among government agencies, the public and private sector where the public engages in complex tasks and co-create specific outputs e.g. data analytics for obtaining new insights and improving decision-making,
- (5) to finally *ubiquitous engagement* where a government agency takes transparency, participation and collaboration to the next level where there is a seamless integration of data analytics with mission-critical government activities.

As government agencies move to a higher maturity level, the public gets more engaged and greater public value of open government is realized (Lee & Kwak, 2012, p. 496). However transparency can also be the outcome of

participation instead of a precondition (Wijnhoven, Ehrenhard, & Kuhn, 2015) which might indicate a dynamic mutually reinforcing relationship. Meijer et al (2012) distinguish different relationships between transparency and participation; synergistic, complimentary and undermining.

Hence, at the organization level, for open government to be effective, government agencies must be willing to be transparent and provide open data. Furthermore, the components of transparency, participation and collaboration may vary among agencies depending on the stage they are in. Citizens have to be willing to scrutinize information, participate in the process of open data and collaboration needs to take place between different levels of government, businesses, not for profit organizations and individual entrepreneurs (Chun, Shulman, Sandoval, & Hovy, 2010; Evans & Campos, 2013).

In this section we have described the societal and organizational context of open data use. We have distinguished three democratic conditions in which citizens have different roles and we have three cornerstones of an open government that can be facilitated by new technologies. Next we will turn to the actual use of open data.

3 TOWARDS A MODEL

Activity theory can be used as a framework for human computer interaction: the use of open data in a societal context. In this section we will first describe Activity Theory, and then we will apply Activity Theory to the use of open data thereby building on the former section, resulting in the Societal Activity model of Open Data use.

3.1 ACTIVITY THEORY

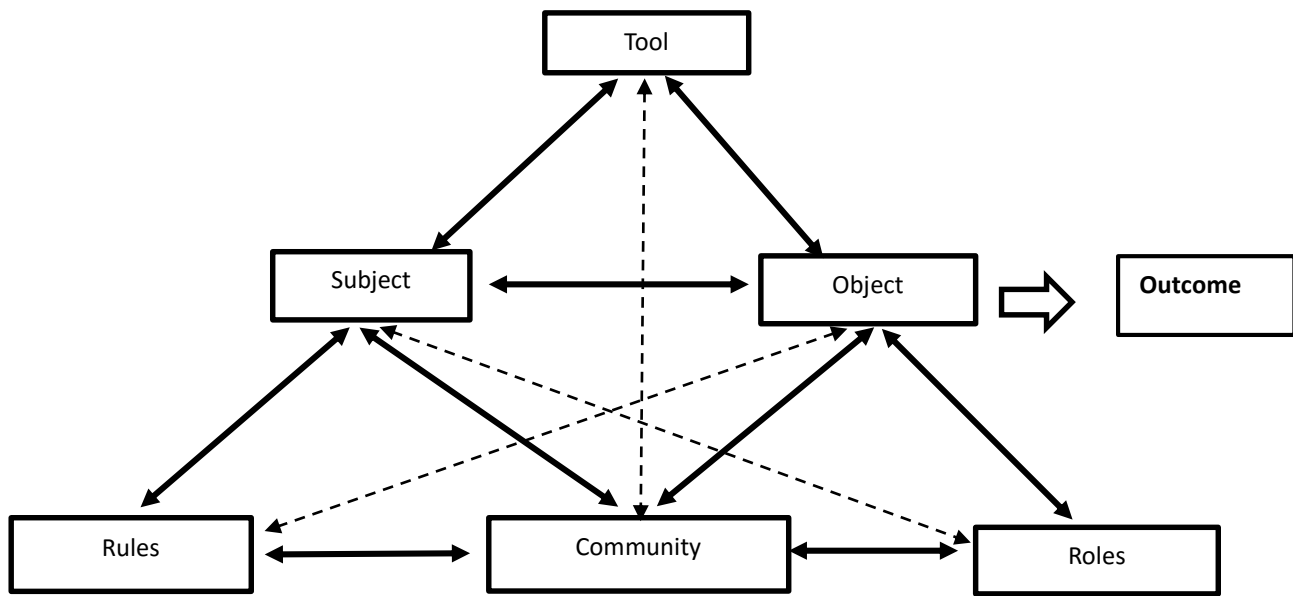
Activity Theory has its origins in Soviet psychology, elaborated notably by the Russian psychologists Vygotsky and Leont'ev (Rogers, 2004; Engeström, 2000) and can be used as a starting point in studying contextually embedded interactions (Kuuti, 1996). An activity is a collective form of doing directed to and driven by an object (Engeström, 2008; Kuuti, 1996), 'behind' which stands a basic human "need" (for example, in the collective activity of hunting, the object is the animal being hunted, and behind this stands the need to be nourished). Moreover, activities are open systems (Engeström, 2001). They are continuously changing and developing (Nardi, 1996; Kuuti, 1996). This development is uneven and discontinuous and not linear. Activities therefore have a history of their own. Consequently, historical analysis of such development is often needed in order to understand the recent situation (Kuuti, 1996). Many psychological theories use human action as the unit of analysis. However, Activity Theory stresses that what takes place in the activity system is composed of object, actions and operation, is the environmental context (Kuuti, 1996; Jonassen & Rohrer-Murphy, 1999; Nardi, 1996). People consciously and deliberately generate contexts (activities) in part through their own objects. "Context is both internal to people, involving specific objects and goals, and external to people, involving artefacts, other people, specific settings" (Nardi, 1996, p. 76).

The basic activity model consists of four components: subject, object, tools and outcome (Kuuti, 1996). The object of an activity is the physical or mental entity towards which the activity is oriented, that motivates the activity (Jonassen & Rohrer-Murphy, 1999). An object can be a material thing but also less tangible like a plan (Kuuti, 1996). It is possible that the object itself will undergo changes during the process of an activity (Nardi, 1996). The subject is the individual or group of actors engaged in the activity (Jonassen & Rohrer-Murphy, 1999). The subject and object of an activity are in a reciprocal relationship, whereby the subject can transform the object and the other way around (Kuuti, 1996). Mediation is carried out by a tool into which the historical development of the relationship between subject and object thus far is condensed (Kuuti, 1996). Tools alter the activity and are in turn altered by the activity (Jonassen and Rohrer-Murphy, 1999). Tools can both have an enabling function (empowering the subject in the transformation process) and limiting function (restricting interaction to be from the perspective of that particular tool or instrument). The outcome is the final result when pursuing an object. Transforming the object into *an outcome* motivates the existence of an activity (Kuuti, 1996).

An often-used application of activity theory is Engeström's systematic model (figure 2). From his perspective, an activity is understood as 'successive, momentary instantiations of a wider and more stable system of collective activity' (Engeström, 2000, p. 961). In addition to the components of the basic model, this model adds the components, community, rules and roles. A community is an independent aggregate who share a set of social meanings (Jonassen & Rohrer-Murphy, 1999). The community consists of all actors directly involved in an *Activity*, sharing the *Object* with the *Subject* (Ojo, Janowski, & Estevez, 2011). Actors in a *Community* share a set of social meanings. The relationship between citizens and the policy community is mediated by rules. Rules are explicit and implicit norms, conventions and social relations of a community (Kuuti, 1996; Ojo, 2011). They guide the

actions or activities acceptable by the community (e.g. legal framework) (Jonassen & Rohrer-Murphy, 1999). Finally, the *division of labor or roles* (Ojo, Janowski, & Estevez, 2011), mediate the relationship between object and community. It creates different positions for the participants (Engeström, 2001). Roles prescribe the task specialization by individual members of the group within the community (Jonassen & Rohrer-Murphy, 1999). They refer to the explicit and implicit organization of a community (Kuuti, 1996).

Figure 2: Elements of Engeström's model of Activity Theory.



More recently, Activity Theory has been used to understand networks of interacting activity systems, thereby including minimally two interacting activity systems (Engeström, 2001). In this third generation of activity theory, the object moves from an initial state of unreflected, situationally given 'raw material' to a collectively meaningful object constructed by the activity system and to a potentially shared or jointly constructed object (Engeström, 2001, p. 136). Engeström (2001) points out five principles of these interacting activity systems. First of all, the unit of analysis is a collective, artefact-mediated and object oriented activity system in its network relations to other activity systems (Engeström, 2001, p. 136). Second, an activity system is characterized by a community of multiple points of view. This multi-voicedness is multiplied in networks of interacting activity systems. Third, activity systems take shape and get transformed over lengthy periods of time and therefore their problems and possibilities can only be understood against the activity systems' own history. Fourth, contradictions within the system are seen as sources of change and development. Finally, the fifth principle proclaims the possibility of expansive transformations in activity systems due to a collective change effort based on contradictions. This third generation of Activity Theory will now be applied to the use of open data (Engeström, 2001).

3.2 THE SOCIETAL ACTIVITY MODEL OF OPEN DATA USE

The first component we need to describe is the activity itself. In this case the *activity* concerns the use of open data in three different democratic contexts: monitorial, deliberative and participatory. Furthermore in this document we have focused on citizens as users of open data and on public administrators as provider and user of open data. As pointed out in the former section, Activity Theory is also used to understand networks of

interacting activity systems. Citizens and public administrators can be considered as *two* interacting activity systems, both focused on the use of open data but each with their own roles, community, motivations etc. (see figure 3). Below the two interacting activity systems will be described.

First, the activity system of **citizens** (figure 3) will be described. The *subject* can then either be a citizen as a watchdog in a monitorial democracy, a partner in dialogue in a deliberative democracy and a partner in Action in a participatory democracy. The *object* of the use of open data can be a societal problem that affects citizens such as population decline or employment, but that is not too complex because otherwise people might feel that can contribute in a meaningful way. TET and SPOD are the mediating *tools* and platforms for the use of open data. These tools can display and provide accessible and understandable data regarding the object (monitorial democracy), but can also provide tools for interaction such as allowing interaction with public officials, channels for participation through e.g. the use of online forums and surveys (deliberative democracy), and opportunities for collaboration with public administrators or other citizens e.g. tools to alert government or discuss public policy issues (participatory democracy) (Sandoval-Almazan & Gil-Garcia, 2012). *Rules* at the organizational or community level refer to legal frameworks such as Freedom of Information laws (FOI's) that give citizens a right to request information. But it also refers to informal rules and strategies within the community: who participates and collaborates? Who is invited? A *community* can consist of other interested citizens but also journalists, researchers, individual technology developers, businesses and public administrators, reflecting multiple points of view. A community might focus on different conventions depending on their situation (Lee & Kwak, 2012). *The roles* of the actors in the community also influence the basic activity. Stakeholders, such as journalists in a monitorial democracy can have a role as an intermediary between government and citizens. The groups in a community each have their own interdependent roles e.g. partner in dialogue or action.

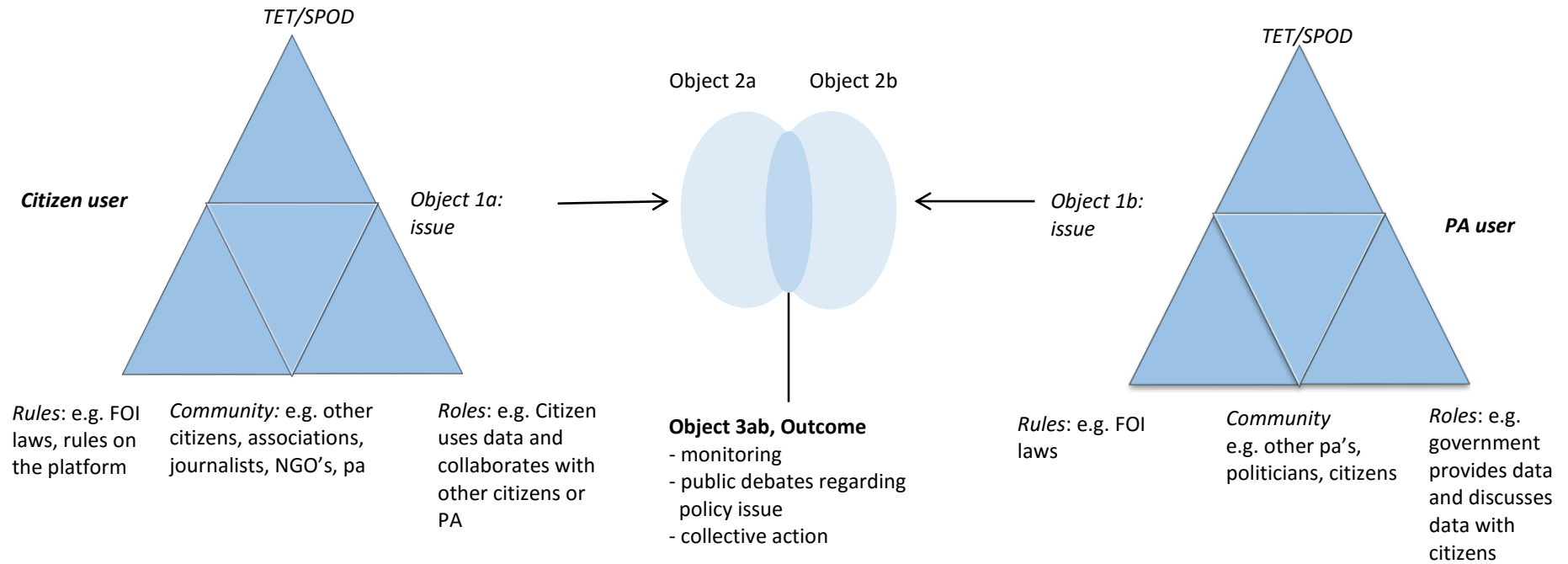
Second, we describe the activity system of the **public administrator (PA)** (figure 3). As a subject a public administrator can be a provider of information both proactively or reactively in a monitorial democracy. The civil servant can also facilitate dialogue (deliberative democracy) or be a partner in action (participatory democracy). The *object* of the use of open data can be a policy issue or societal problem such as public sector budgeting, population decline and food safety. The data released concerning this issues could be focused on event and/or process transparency and/or transparency in retrospect or in real time. TET and SPOD are the mediating *tools* for the use of open data. These tools can display and provide accessible and understandable data (monitorial democracy), but can also provide tools for interaction such as allowing interaction with individual citizens, journalists or citizen groups (deliberative democracy), and opportunities for collaboration with e.g. companies to stimulate innovation based on open data (participatory democracy). *Rules* at the organizational or community level refer to legal frameworks such as Privacy laws and Freedom of Information laws that oblige government to provide information. But also informal strategies either facilitating or inhibiting the system (e.g. blame-avoidance strategies). They can also refer to procedures and operations (event transparency) regarding e.g. decision making, participation processes etc. The community of the public administrator might consist of stakeholders but also other public administrators and political appointees with whom he or she works within the administration. The administration might support or hinder the activities of the public administrator (Hood, 2007; Meijer A. , 2015). Moreover, a government organization that has just started releasing a few data sets (see section 2.2.4) will be more focused on keeping the public informed about the datasets, whereas an agency in an open participatory phase is focused on feedback and interactive communication and an organization in an open collaborative phase might be more focused on jointly solving complex policy problems. The role of government organizations varies in the different democracies. In a monitorial democracy the focus is on the provision of data whereas in the deliberative democracy the focus is on the facilitation of interaction and in a participatory and in participatory democracy the focus is on co-creation and collaboration.

Third, in figure 3, the object, moves from an initial stage of raw material (object 1) to a collectively meaningful object constructed by the activity system of citizens and the activity system of the public administrator (object 2) to a potentially shared (object 3) understanding of e.g. monitoring government behavior (monitorial condition), or a shared dialogue regarding a societal issue (deliberative condition) or a collaboratively constructed action or innovation (collaborative condition). It explains how the interacting systems can create public value out of open data for a specific policy or societal issue.

Fourth, it should be noted that activity systems take shape and change over time and therefore their problems and possibilities can only be understood against the activity systems' own history. This implies that in order to be able to notice the change in the activity (the use of open data), measurement of the activity needs to take place at several points in time. In addition, the specific context of the use of open data needs to be taken into account as well.

Finally, *contradictions* within the system are seen as sources of change and development. Activity systems are in constant movement and internally contradictory. "Contradictions are historically accumulating structural tensions within and between activity systems" (Engeström, 2001, p. 137). Disturbances or *tensions* keep the activity system in constant instability (Engeström, 2000). The identification of contradictions helps to focus on the root causes of possible problem. We can identify tensions in the model. For instance, the activities will only be carried out if there are subjects or citizens with the needs and motivations to carry out these activities. Furthermore, citizens will be inclined to monitor, deliberate or participate if they care about or have a stake in the specific policy domain (the object). Or they may require access to certain types of data for monitoring, debating or coproducing but if they do not have access to this data due to privacy or security rules, they will not be able to use open data.

Figure 3: Societal Activity model of Open data use



Adapted from Engeström (2000)

4 RESEARCH METHODOLOGY

The Societal Activity model of Open Data use is derived from several strands of literature: democratic theory, transparency research and Activity Theory. The next step is to test the model in practice in five case studies across four countries.

The model builds on the results and scenarios developed in WP 2 (Hogan, et al., 2015) and the collective intelligence scenario-based design workshops or focus groups held at each pilot site. These workshops consisted of 8 to 18 users and participants. Additionally, a workshop with experts and follow-up interviews were held and a document analysis was conducted. The workshop with experts took place during a meeting in Galway on June 9th 2015 and consisted of both researchers and public administrators. The participants worked in groups of 2-3 persons on one pilot site (see also Lee and Kwak, 2012 who used a similar technique to develop the Open Government Maturity Model). The structure of the workshop was as follows (appendix A).

- First the participants were asked to identify the elements of the model based on their pilot site
- Second, they were asked to identify possible tensions based on their pilot site
- Third, they were asked which implications these tensions have for the design of TET and SPOD

The results of the groups were presented during the workshop. The presentations were recorded and transcribed.

Follow-up semi-structured interviews were conducted with 11 respondents during September and October 2015. The respondents were involved in developing the scenarios for each pilot site and organized, conducted and reported the workshops held with public administrators and users as input for the user requirements (WP 2). The semi-structured interviews provided the opportunity to ask more in depth questions regarding the scenario at each site define the elements of the Societal Activity model specific to their site and add new insights based on the latest developments and additional meetings and focus groups held after the Galway meeting, in their pilot sites. The questions asked related to the elements of the Societal Activity model e.g. the policy issue, rules, community members involved and their different roles, challenges, benefits and requirements for the design of an open data platform and the desirable outcome. The interviews were transcribed and analyzed. In addition, government strategic plans and websites were analyzed related to the projects at each pilot site. The findings result in a description of each pilot site, the initial situation, before the use of TET and SPOD. Based on this initial situation, implications for the design of TET and SPOD as well as GUIDE will be given.

5 FINDINGS

In this section the findings are presented for each of the five cases developed by the project partners, either Public Administrations, or research partners collaborating with Public Administrations in their own countries. First a brief description will be given of each pilot site based on the results of the workshop, interviews and document analysis, thereby identifying for each case the democratic condition, the object, outcome, needs and motivations of government and citizens, rules, community, roles, outcomes and tensions.

5.1 PRATO, ITALY (CITY BUDGET MANAGEMENT)

The Prato administration has made a commitment to open data. In its open data policy document (Prato, 2014), the municipality of Prato emphasizes that the published datasets are owned by the community, and citizens have the right to access and freely reuse the open data (Comune di Prato, 2014, p. 3). The city would like to increase transparency on budget management and possibly collect some of citizens' expenditure suggestions. Hence, the *object*, or policy issue, in Prato concerns city budget management. The aim of this scenario is that subjects, *citizens* can monitor how the municipality allocates the city budget and that they can propose expenditure priorities and suggestions. The *administration*, both at the political and bureaucratic level, aims to increase transparency on budget management and enhance dialogue with citizens by soliciting citizens' expenditure suggestions. This specific scenario is in line with the *monitorial democracy concept but also has deliberative components*.

The *community* is heterogeneous in that it does not consist of one particular target group. Members of the community are citizens, associations, businesses and journalists. Businesses can increase their competition level by e.g. monitoring procurement tenders. Businesses and citizens can enhance their understanding of *how* the money is spent but also how the budget is built and defined and what priorities they can indicate given the *rules and constraints* (appendix A). The community has:

“A common interest that they would like to contribute to in some way. But every group, like the citizens and businesses might be interested in their own specific things. For businesses for instance on how to be more competitive” (respondent 2)

“And citizens will be interested in decisions that influence them” (respondent 1).

Currently, the administration organizes face-to-face meetings in the budget preparatory phase with citizens, associations and other organizations (respondent 1). During these meetings citizen groups can ask for clarifications on the budget but do not have opportunities to influence the spending proposals and nor the construction of the budget (Hogan, et al., 2015). Turnout for these meetings depends on the topic to be discussed and the budget-decisions to be made:

“If there is no particular problem, then these meetings are not very well participated. In some years there is an important decision to be made and there are issues to talk about and then a lot of people come to the meeting, excited to talk to the administration” (respondent 1).

Older people mainly make the contributions during these meetings. In order to also involve younger citizens, the municipality of Prato would like to use innovative technology in the budget process and would like to start discussions among citizen users prior to the negotiation phase (Hogan, et al., 2015). Presently, the budget data is available in PDF-format. This is going to be changed to an open data format, which according to the respondents is a complicated process. The administration is obliged by law (D.L. 33/2013) to publish minimum contents to enhance transparency, i.e. total accessibility to information on the city administrative and institutional activity. In addition there are rules regarding managing the budget that are very complicated.

The respondents identified several *tensions or challenges*. From the perspective of the citizens there is a lack of confidence in the administration and the quality provided. There is unwillingness on being involved in budget discussion as "it is useless, they do as they like" (respondent 2). A challenge is how to involve citizens. Moreover there is a lack of comprehension of budget data. From the administration's perspective there is a fear that open data and the tools will create too high expectations from citizens, resulting in too many, unrealistic requests given the rules and constraints:

"There is a risk that there will be an explosion of requests from citizens" (respondent 1).

Another tension in the community of the administrators is a lack of resources: the departments involved might be too busy to deliver the required input (respondent 1). It requires a different approach to open data publishing and management. Open data should be seen as an important asset of the administration's institutional role. Co-operation with citizens should become an opportunity rather than a nuisance and transparency should be seen as a real chance for the local community and not only a legal obligation (respondent 2).

According to the respondents, the *Transparency enhancing tools (TET)* are especially important because they can increase the comprehensibility of the data through visualization e.g. graphs and maps, but also through comparisons of budget categories without losing coherence. TET should facilitate data search and aggregation. In addition, the Social Platform for Open Data (SPOD) can offer a space where budget suggestions and issues can be discussed between citizens and administrators. Posts should have the option to include datasets and graphs regarding the budget. This should facilitate rankings. Furthermore, the tools should enhance citizen's understanding of budget mechanisms. For the administration it should facilitate transparency, it should be experienced as an opportunity for the community not as a nuisance or just a motto (appendix A). The community is diverse and different roles can be identified. These different roles should be reflected in the tools.

The respondents indicated that a desired *outcome* of this project is that open data can facilitate access to administrative processes for citizens, which might eventually increase confidence in, and cooperation with the administration. In addition, "What I hope from the project is that by using the open data platform we can involve more young people. Normally during the face-to-face meetings it is very difficult to involve them" (respondent 1).

5.2 GRONINGEN, THE NETHERLANDS (POPULATION DECLINE)

Groningen is the most northeastern Province of the Netherlands. The Province of Groningen has a population of around 579,000 inhabitants, dispersed over 23 municipalities (Provincie Groningen (a), 2015). The capital of the province Groningen is the city of Groningen with 189.000 inhabitants. The Province and the City of Groningen

have their own open data portal www.data.groningen.nl with more than 70 datasets and visualizations of financial data and health concerns. The *object* or policy issue in Groningen focuses on population decline. One of the areas with the highest population decline in the Netherlands is situated in Groningen. The expectation is that the population in the Eemsdelta region and De Marne will have declined by 25% in 2040. In Eastern Groningen, the population will have declined by almost 13% in 2040 (Provincie Groningen, 2011).

This pilot case can be characterized as *deliberative but also has participatory elements* according to the respondents. The administration facilitates citizen participation but would like to increasingly collaborate or co-produce with citizens among others by stimulating citizens' initiatives (respondent 3). The societal issue policy decline affects several policy areas e.g. health care, education, employment, housing and services. The pilot will focus on the issues of housing, employment and healthcare, in line with the coalition agreement (Provincie Groningen, 2015). *Citizens* are personally concerned about the loss of their (public) services and their quality due to the consequences of population decline (respondent 3 and appendix D). The *community* is diverse consisting of citizens, public organizations (schools, health care organizations etc.) and private companies. Within the *administration* both the national, provincial and local governments are involved (multilevel governance) (respondent 4). The main policy aim is to guide and to anticipate the consequences of population decline (respondent 3). Open data as an instrument can provide insight in the consequences of and might be able to contribute to innovative solutions for population decline (respondent 4). There is political will and support for open data and transparency and for guiding and anticipating population decline (Provincie Groningen, 2015). However at the administrative level open data is not necessarily a priority. There is a lack of available resources (respondent 4 and 5).

Currently, the province has an open data portal with over 70 datasets. There is a separate project regarding open data and financial information. Practical data is available regarding e.g. the maintenance of bridges. So far, open data has not been used in relation to population decline:

“We hope that open data eventually will also help in solving policy issues (...) It is not only interesting to look at data concerning housing, employment and health care in relation to population decline, but it is especially interesting to make connections between these issues with the help of data.” (respondent 3)

Datasets, relevant for population decline are currently limited on the portal and spread out over different organizations (respondent 3 and 4, Hogan, et al., 2015). There is a dialogue between citizens and public administration regarding population decline in the form of face-to-face meetings, the so-called “Krimpcafés”. However the perception is that these meetings are not very well attended (respondent 4 and respondent 5). There is not yet a technological platform where public administrators and citizens can interact or collaborate. The current *rules* e.g. the re-use of public information, are perceived by the respondents as facilitating the release of datasets.

The respondents identified several *tensions* in this scenario. First of all, there currently seems to be not sufficient administrative support, especially at the management level (respondent 4). Furthermore, there is a lack of best practices concerning the usefulness and value of open data. In order to have the support of the management level it is important to find out what is at stake for them (respondent 4). Another issue is to define and build a community, since the topic is broad and diverse:

“It might be difficult to pinpoint down a specific community (...) perhaps the community is there but we just don't know that it is” (respondent 5).

For *TET* it is important that it facilitates insight in population decline in Groningen in general but that there is also an option to compare and analyze regional differences. The issues in one region of the province might be very different from the other (Noordelijke Rekenkamer, 2015) and hence they might require different solutions (respondent 4). *SPOD* should facilitate dialogue between citizen groups and between citizen groups and public administrators.

“I think it would be naïve to think that a tool, even with good datasets, could create a new citizen initiative. But it could help in informing citizens and facilitating dialogue” (respondent 4).

The desired *outcome* would be interaction between citizens regarding a specific policy domain (respondent 5). The platform could add and complement other communication tools.

5.3 DUBLIN, IRELAND (“CAPACITY BUILDING”)

The Dublin City Council is one of the founding partners of Dublinked. Dublinked is an idea and information sharing network which connects the Dublin region’s four local authorities with universities, companies and entrepreneurs. Dublinked brings people together to test new ideas using live city data and to develop new products and services using the city as a testing ground (Dublinked, 2015). The objective of Dublinked is to enable innovative applications by entrepreneurs and businesses in areas like public transportation, planning, social services and public facilities (Hogan, et al., 2015, p. 19). In accordance with the Digital Masterplan of Dublin: “Open Data is a key element of the commonage and the initiative taken regionally in Dublinked should be extended and developed” (Dublin Digital, 2013, p. 13).

The *object* or scenario chosen for ROUTE-TO-PA evolves around capacity building, which focuses on increasing citizen engagement in a deliberative process with their city or more specifically their community. The Dublin City Council for instance launched the program Your Dublin, Your Voice, an online feedback survey (respondent 7) that “gives Dublin’s citizens and visitors a unique opportunity to provide opinions and views on what they love, like and dislike in our city.” (Dublin City Council, 2015). Thereby *public sector decision makers* are informed, allowing for integrating various views, values, experiences, knowledge and skills of citizens. The scenario thus focuses on building community awareness with the ultimate outcome to make my city great (respondent 7; Appendix D; Hogan, et al., 2015). The overall aim of Dublinked is to “to bring people together, test new ideas using live city data, and to develop new products and services using the city as a testing ground” (Dublin City Council, 2013, p. 22).

This specific scenario fits into the *deliberative democracy concept*. Dublinked facilitates civic contribution to the debate on policy issues; specifically it encourages community conversations and builds community networks. The motivation for *citizens* and communities to engage is that it is a change to find out what is already available and happening in their neighborhood and what is planned for their neighborhood in the future (appendix D).

“Deliberative democracy implies that you in fact empirically identify the nature of the deliberation over open data. You are aware that they are influencing the nature of the deliberation or decision making over policy issues” (respondent 6).

The *community* is heterogeneous in that it does not focus on one specific group. The community consists of local authorities, elected representatives, resident associations and, lobby groups. Their role is to help in capacity building and community building (respondent 7). The local authorities are the facilitators and data providers. Other community players are participants in the community conversations and network building (appendix D). There is seems to be political support for the project:

“They voice support but the reality is that they also have a debt to pay off, they have tax to distribute among so many things... you get a mismatch between voice and how much they are actually spending” (respondent 6).

Cost is an important barrier (respondent 6). In terms of the *rules*, data protection plays an important role, particular in relation to planning data. In that case the names of applicants for planning permission must be removed if they are hyper searchable by publishing as open data (appendix D).

Currently, Dublinked hosts more than 300 datasets on its open data portal (Dublinked, 2015). There are public amenities data services and facilities, socio economic data, planning and land use so that people can see what the area looks like. To encourage the re-use of the data Dublinked combines the open data portal with the promotion of an innovative network to enable new collaborations that solve urban challenges and create better services. This includes ‘dubmeets’, ‘hackdays’ and ‘open data challenges’, which involve businesses, technology developers, researchers and city experts. This approach has mainly focused on the added economic value of open data (Hogan, et al., 2015). Dublinked is currently seeking to broaden its user base and explore the potential social value of open data and to communicate the value of open data to a wider audience and to involve ordinary citizens (Hogan, et al., 2015).

In this scenario several *challenges* can be identified. First of all, data quality: socio economic data is collected at the national level and furthermore data has to be changed from static to dynamic that facilitates discussion (respondent 7). A second challenge is privacy, namely the development of scripts that remove personal data. Third, a challenge is to facilitate collaboration over potentially sensitive data at the micro level. Fourth the moderation of SPOD is seen as a challenge because the local authority does not have resources for 24-7 moderation. Fifth, data may highlight or exacerbate social divisions: disadvantage areas compared to areas of affluence. Similarly, it must also be ensured that the digital divide does not compound the social divide i.e. affluent areas may already have more capacity to engage online and may need additional capacity building to develop skills and awareness (respondent 7 and appendix D). Finally, in this line competency building among users is challenging: “they need competency to interpret visualizations and numerical information”(respondent 6).

In this scenario it is important for *SPOD* to facilitate the discussion but also collaboration. It should enable citizens to make their voice heard and get information on areas of interest. A two-way flow of information needs to take place between public administration and citizens and from citizen to citizen (Appendix D). The current data portal provides data that it’s generally accessible to the IT literate, but not to the general population (Hogan, et al., 2015). *TET* is to present the data in an understandable format and visualize a combination of relevant datasets to gain new insights about their city and neighborhood. It should enable citizens to easily find data that is useful and relevant to them so they can find out what is happening in their area. The tools should facilitate new types of community engagement around city data and create value for general users who may not have the technology skills to interact with the data available in raw formats (Hogan, et al., 2015).

The desired *outcome* of this project is the actual use of open data (Hogan, et al., 2015).

“Certainly an outcome would be greater engagement in open data and greater trust in the deliberative democratic experience between the users and those who are paid to govern (...) That engagement and collaboration. And enhancing the quality of the data and of the quality of the decision derived from the data and the deliberation. Through the success of our project more government engagement and citizen engagement and the capital will flow. Capital flow when profit is to be made. Profit can be interpreted in many ways; in terms of the enhanced well-being of people in society or the enhanced material wealth of people” (respondent 6).

5.4 ISSY-LES-MOULINEAUX, FRANCE (YOUNG ENTREPRENEURS)

Issy-les-Moulineaux is a city located near Paris. The city hosts many IT companies (Issy-les-Moulineaux, 2015) and welcomes start-up companies in the field of new technologies. Issy would like to enhance economic growth by supporting interaction between and cooperation among young entrepreneurs (Hogan, et al., 2015). There is not a specific policy problem identified in this scenario (respondent 9), but start-up companies can boost employment and can push economic activity in the city. They can stimulate innovation and develop new apps based on open data. Developers for instance use open data to locate municipality events and geological points of interest on a real time map (Issy-les-Moulineaux, 2015, p. 29).

The specific pilot in Issy-les-Moulineaux can, according to the respondents, be characterized as *participatory*. The focus of this scenario is on *young entrepreneurs* who are in the process of starting up a company or have already owned one for less than two years (appendix D). These entrepreneurs would like to build sustainable businesses and are looking for public subsidies (respondent 8). The *community* is homogeneous in that they are consisting of one specific group: young entrepreneurs and associations representing them. Yet they have different roles in the community. Entrepreneurs would like to collaborate and interact with each other and create a network, but at the same time they are also each other’s competitors. For *public administrators* it is important to understand entrepreneurs’ needs so that better services can be provided (respondent 9).

Currently, there are datasets regarding the budget, demography etc. available on the open data portal of Issy-les-Moulineaux. Some of these datasets might be relevant for young entrepreneurs, but more data is needed. There are quality and technical issues with some datasets. The city provides financial support to entrepreneurs but there are no specific mechanisms in place facilitating interaction between public administrators and entrepreneurs. The only platforms for exchange of information made available by the Issy public administration are the traditional social networks (Twitter, Facebook). These tools are sometimes used to identify citizens-entrepreneurs’ needs, but mostly as a means to promote and justify the political decision taken by local government with the aim of increasing acceptance of unpopular measures. The fact that on Twitter and Facebook, PAs create and/or moderate a discussion list on data that they have published reinforces this. Among *public administrators*, there is a lack of awareness regarding the environment in which young entrepreneurs operate and what their needs are (respondent 8). Furthermore, even though the administration at the political and bureaucratic level supports transparency there is at the same time a fear of a backlash once

certain types of data would be released (respondent 8). In terms of formal *rules*, privacy issues are identified as the main inhibiting factor in releasing data (respondent 9).

The respondents identified several *tensions* in this scenario. First of all, there is a tension between the needs of the entrepreneurs and those of the public administrators. Entrepreneurs might be interested in datasets that public administrators fear would produce a backlash (for example, data on air pollution, and data on public places accessible by people with disabilities, data on nurseries capacity). In addition, entrepreneurs might want to obtain quick and personalized answers to their questions, yet at the same time they may not wish to disclose confidential information. They are on the one hand interested in interacting with each other yet at the same time they might be each other's competitor (respondent 8). Furthermore, there is a challenge in how to make communication between entrepreneurs and public administrators useful. Finally, there is a fear of trolling and the challenge of the moderation of the tools (respondent 9).

In this scenario *TET* is perceived as the translator for the entrepreneurs. TET should present the information in an accessible format and should incorporate a tool that allows comparison and ranking (respondent 8). Entrepreneurs should be able to add information such as data and links. Public administrators should be able to upload data and provide information regarding subsidies (appendix D). *SPOD* is an important tool that can facilitate the detection of the needs of entrepreneurs. Furthermore, it should facilitate interaction not only between the entrepreneurs but also between the entrepreneurs and public administrators, whereby the public administrator moderates the platform.

According to the respondents, a desirable *outcome* would be an enhanced understanding of the needs of entrepreneurs among public administrators thereby using tools to facilitate communication between citizens and public administrators. Common ground or a match needs to be found between the needs of the entrepreneurs and the needs of the public administrators. Eventually, this should contribute to enhancing innovation and economic growth.

5.5 THE HAGUE, THE NETHERLANDS (EMPLOYERS AND EMPLOYMENT)

The pilot in The Hague focuses on collaboration between public administrators and employers and can be characterized as a participatory process. Employers and the City of The Hague are partners in the project (respondent 10) and they have a longer history of collaboration and meetings. The specific scenario or policy issue (*object*) suitable for exploiting Open Data will be jointly developed, whereby the focus is on finding solutions for existing problems together.

The pilot "is about co-creation, but we are not there yet. We are still in the stage of finding out what it is all about and where it should lead to" (respondent 10)

Yet, respondent 11 emphasizes that there are also deliberative elements in the scenario because the scenario is not completely open. There are constraints (respondent 11). Examples of constraints are policy rules, such as the Participation Act (Participatiewet) of January 2015 (respondent 10 and 11). One of the goals of the Participation Act is to enhance participation in the labor market by people with a disability (Ministry of Economic Affairs, 2014). Municipalities are among others responsible for the provision of benefits and reintegration of new young disabled persons with the ability to work, and for a sheltered employment scheme for those who cannot perform

regular work (National Social Report The Netherlands, 2014, p. 4). Employers are being encouraged to look for opportunities to hire people with disabilities within their organization (UWV, 2015). This calls for negotiations between employers and local governments:

“there should be an open negotiation process. How can we (PA and employers) do this together” (respondent 10).

However, even though local government and employers know each other quite well, and have overlapping interests, their natural roles in the municipality are not the same. One of the barriers that was mentioned during the workshop was that government and employers not always seem to understand each other very well (Hogan, et al., 2015, p. 100). In the current phase of collaboration and policy formulation, government and employers have to learn to better understand each other's *roles*, processes and procedures (respondent 11).

The *community* of employers is homogeneous in that it consists of employers at what respondent 10 called the “strategic level”. These are employers of big companies, the “top accounts”, where potentially a lot of job seekers might be placed¹. Even though the pilot focuses on one specific group, these employers are diverse in that they have different roles in the community. Some are directly hiring, others are CEO's from temporary agencies or intermediaries who employ people. Some focus on highly educated people while others focus on flexible work (respondent 11). In addition, the employment opportunities might differ in the various sectors. Finally, these employers can also be competitors (respondent 10). What they share is that they would like to have good employees. This is also what they have in common with the public administrators who would like to deliver good employees from the region. Furthermore, once people have found a job, they are no longer financially dependent on the government (respondent 11).

So far there is not yet active political engagement (respondent 10 and 11), because the project is still in the stage of defining how and which open data can contribute to social domains (respondent 11). The project therefore has also not been broadly communicated within the city of The Hague yet (respondent 11). However, in general there is political interest for co-creation, for making policies and refining proposed solutions together with employers and citizen groups. In terms of open data:

“Open Data are viewed as instrument, to which you have to link policy goals. It is a puzzle to see how open data fits within social innovation” (respondent 11).

Open data in itself is not explicitly mentioned in the Coalition Agreement (Den Haag, 2014). Within the city at the public administration level, there is willingness to cooperate. Four to five people are involved in the pilot and resources are available as well yet, it remains a vulnerable component, for instance because they have a lot of other things to do as well (respondent 11). Many discussions between the groups involve matching: finding the right people of the right jobs, within existing rules and regulations. This is the current basis for collaboration, and participation in the project.

The Hague has an open data portal that contains more than 8600 datasets. The datasets concern the physical environment, demographics, geographical data and information about future services (Gemeente Den Haag, 2015). Currently the pilot participants are in the process of finding out what data exactly is available regarding

¹ Two more levels can be distinguished namely the level of self-service in which employers and employees find each other via e.g. websites such as werk.nl (work.nl), and the market level, in between the self-service and strategic level.

social affairs and employment focused specifically on The Hague. There is data at the country level (CBS data) regarding social economic trends but more specific data is needed because the labor markets differ per region. (respondent 11). One of the limitations regarding the datasets in this scenario are the rules regarding privacy. This scenario is about people, about employers and employees and as soon as data is traceable by name there are privacy issues at stake (respondent 10 and 11).

The respondents mentioned several *tensions* in the project. The biggest challenges in the pilot are finding useful open data (respondent 11) and dealing with privacy rules that influence the access to the data (respondent 10 and 11). Building an active community is another challenge. From the public administration perspective, if the project leads to results and if the project will become part of their task, they will actively become part of that community. For employers the project needs to contribute to their own interest. Community building can only succeed when individual interest can be deduced from the collective interest (respondent 11). These personal interests can be a challenge as well in case there is a lack of immediate urge, interest or motivation in the issue (Hogan, et al., 2015).

Currently, mainly face-to-face meetings are taking place between public administrators and the employers (respondent 11). The platform, *TET and SPOD* could function as an additional means of communication. It should be possible on the platform to launch ideas and collaborate regarding these ideas. In addition, it could be a way to intensify the contact with this group. An account manager has a lot of face-to-face contact that should remain, but some of that contact might be replaced by the platform (respondent 11). Hence, the platform can be an efficient alternative. SPOD will need a moderator. Without a moderator it will not work according to respondent 11. Moderation should be a role of the public administration. For the pilot site of The Hague it is important that the platform contains an open space that shows general trends. It shows open data and facilitates transparency. Additionally, the platform should have a more closed space where users need a password and where they can discuss certain topics and can share information. Then there should be a third closed space that focuses on projects, facilitating collaboration between users (respondent 11).

A desirable *outcome* for the project is better collaboration, increased interest in each other's activities, and as a consequence, more feedback and better implementation (respondent 10 and 11). This can get shape in various scenarios. The platform could be a think-tank for projects and ideas and it should also allow sharing of the outcomes of such collaborative discussions, it can serve to share information about other relevant information; it can help to start discussions to start discussions (respondent 11). In terms of transparency, it implies that the participants understand each other better and know what they are working on (respondent 10); it implies better collaboration (respondent 11).

In the next section the findings of the different pilots will be compared.

6 A SYSTEMATIC COMPARISON AND IMPLICATIONS FOR TET AND SPOD

Based on the descriptions of the pilot sites and their scenarios some observations can be made related to the democratic process, organizational level and activity system as identified in the literature. For each of these sections implications for TET and SPOD will be discussed (see for summary Table 4).

6.1 THREE DEMOCRATIC PROCESSES

First of all, one scenario can be characterized as monitorial, two as deliberative and two as participatory. However, most scenarios have characteristics of two democratic processes. The desired outcomes for each project are largely in line with the theory. In the monitorial Prato scenario the emphasis is on the facilitation of access to administrative processes and providing insight on how the money is spends. In the scenarios of Dublin and Groningen the deliberative democracy line is followed. In these scenarios the emphasis is on deliberation, communication, on dialogue and creating a social network. At the same time, in Groningen there is the ambition to enhance collaboration and to facilitate citizen's initiatives. Finally, the scenarios of Issy and The Hague are in line with the participatory democracy whereby the desired outcome is co-creation, collaboration and communication.

Implication for TET/SPOD

The tools should facilitate the monitorial, deliberative and participatory tradition:

- ⇒ In the monitorial tradition TET should facilitate access and should allow data analysis such as making comparisons and adding visualizations based on the data. SPOD could facilitate debate focused on monitoring among different citizens user groups.
- ⇒ In the deliberative tradition TET facilitates access but could also facilitate decision making by e.g. an option of combining datasets and visualizations that is of interest for the user, for his or her community. SPOD facilitates participation. It facilitates open communication, a dialogue, a two-way flow of information in which citizens can make their voices heard.
- ⇒ In the participatory tradition TET ensures access but also facilitates *joined* decision-making. Moreover it should be able for citizens to post their own generated data or to add data from other sites. After all, in this scenario different groups are co-producing, creating public value together. SPOD facilitates this process by not only facilitating participation but also collaboration e.g. being able to share documents, visualizations but also to work in these documents or visualizations together.

6.2 ORGANIZATIONAL LEVEL

At the organizational or institutional level, in terms of transparency at this stage of the project we can identify both event and process transparency in the scenarios. In Groningen and Dublin the focus is on event transparency for instance, the information needs focus on e.g. output data such as socio-demographic data, budget data and planning and community data. In Issy the scenario focuses more on process transparency e.g. on information about rules, regulations and expectations regarding subsidies, taxes and laws on trade. In Prato and The Hague, the focus is on both on event and process transparency. In Prato it does not only concerns information on how the money is spent but also on the rules and regulations that influence the managing of the budget. In The Hague there is also a focus on rules, regulations and expectations regarding e.g. Participation Act but at the same time there is a need for information about e.g. job seekers.

In line with Lee & Kwak (2012), different stages of organizational change in relation to engagement with open data can be identified. Whereas some pilot sites are in an *initial* stage with none to limited available datasets relevant to their policy issue, others already have high value datasets. The literature suggests that data transparency important for being able to monitor, is also an enabler for participation (in line with deliberative processes) and collaboration (in line with a participatory processes).

Implication for TET/SPOD:

- ⇒ TET should facilitate both event (input and output data) and process transparency (information regarding rules and regulations). Furthermore, the information discussed in the pilots mainly concerns transparency in retrospect.
- ⇒ TET enhances the understandability of open data. Therefore having good quality data is a precondition for the success of TET. The quality depends both on the provider of information as the user of that information, therefore feedback option could be provided for users.
- ⇒ SPOD should facilitate the different stages. In the initial stage it might facilitate discussion around the meaning of the data or around benchmarking, whereas in the participation and collaboration SPOD might provide input for policymaking.

6.3 ACTIVITY SYSTEM

We have distinguished two activity systems, relating to open data production and use: one of citizens and one for public administrators. First some observations can be made regarding the activity system of *citizens*:

- Regarding the object several cases emphasize *motivational factors* regarding the topic that influence participation of citizens. For example depending on the topic people will show up at meetings. Hence

depending on the richness, relevance and the degree of interest of the object, users might be led to the platform. Furthermore the object in the monitorial process is focused on government behavior or performance, the object in the deliberative democracy is focused on a societal issue whereas in a participatory democracy, joint action is the object.

- Regarding the participants, in some scenarios the focus is more on reaching out to *intermediaries* (journalists, or citizens' organizations) whereas in other projects there is a focus on *individual citizens* (e.g. young entrepreneurs). Prato would like to engage a diverse public e.g. both younger and older people. Dublin would like to make the data accessible in a way not exacerbating the digital divide. This scenario brings to the forefront the issue of representation: who is represented in the participation or collaboration of the platform?
- The community can either be more *homogenous* consisting of a specific groups of users such as young entrepreneurs or more *heterogeneous* consisting of a broad range of organizations such as in the case of population decline. Furthermore as pointed out in several cases the community members might be partners but at the same time also competitors.
- Regarding the *rules*, different pilot sites refer to the rules of virtual communities in terms of the prevention of trolling and the importance of moderation, but also to transparency and privacy rules.
- The *roles* of the subjects and community members differ and this is related to type of democratic condition. For instance in the Prato case citizens or journalists monitor the budget, they are considered a *watchdog*, whereas in Groningen and Dublin citizens are seen as *partners in dialogue* and in Issy-les-Moulineaux and Den Haag as *partners in the co-creation process*.

Implication for TET/SPOD:

- ⇒ The homogeneous and heterogeneous distinction in the community implies that there should be a possibility for accessing TET depending on your role in the community.
- ⇒ TET and SPOD should facilitate different levels of skills and competencies. Journalists in the role of watchdog might be interested in digging deeper in the data and more interested in tools that facilitate analysis than citizens who would like to know what is happening in their community. They might prefer a visualization of the data without having to make one themselves.
- ⇒ Because community members can be both partners and competitors they might not want to share all their analyses with everyone. SPOD should facilitate a space where users can work on their own analyses and ideas and at the same time there should also be a space where they can share information and work together.
- ⇒ The rules on TET and SPOD should be clear for the users.

Regarding the activity system of the *public administrators*, several observations can be made as well (Table 2):

- The policy issue or societal problem can be *rich and generic*, thereby encompassing several policy domains such as in the Groningen case or it can be more *specific*, focused on a single issue such as the budget (Prato). In addition in some pilot sites the issue in the scenario is an existing and defined one, such as in the case of Prato. In other pilots, e.g. Issy and The Hague, the focus is on a specific group (young entrepreneurs and big

employers respectively) and the issue itself is in the process of being defined. The pilot project is part of defining and creating the issue whereas in other pilot sites it concerns an existing problem, issue or field where the administration is already working.

- The role of public administrators varies depending on the societal condition. In Prato the focus is on the facilitation of accessing administrative processes whereas in Dublin the public administrator is a data provider and facilitator of dialogue and in The Hague the public administrator is a partner in the co-creation process.
- Across the pilot sites the community or the organization in which the public administrator works is not always experienced as supportive. In some scenarios there is political support but a lack of administrative support, or there is a lack of resources that hinders the provision of data, but also moderation of SPOD.
- The rules in the activity system, related either to transparency or the policy involved can either *facilitate* or *hinder* the release of open data. In Groningen legislation facilitates the release of datasets whereas in Prato for instance budget laws complicate the release of budget information. The object in The Hague is sensitive to privacy issues, which also hinders the release of information.
- Lastly it should be noted that in most pilot sites, there are currently face-to-face meetings regarding the policy issue. In some instances TET and SPOD might replace these meetings but in other occasions the tools can also be seen as complementary.

Implications for TET/SPOD:

- ⇒ Rich and generic policy issues or scenarios might encompass the release of more and diverse datasets necessary to make an analysis. The value of TET could be to provide opportunities to link the datasets. Furthermore it might results in more diverse topics to be discussed and perhaps separate communities evolving around different topics. SPOD should not only provide the opportunity for facilitating diverse topics but also provide opportunities to view and link the discussions around the different topics within the scenarios.
- ⇒ SPOD will need a moderator, however their might be constraints regarding who can or is willing to be the moderator.
- ⇒ SPOD could facilitate a link with off-line events regarding the object by e.g. the posting events or announcing City meetings, NGO meetings, conferences etc. that might be relevant to the community.

6.4 TENSIONS

Now that we have identified the components of the model we also need to be aware of possible disturbances. As pointed out earlier, Engeström (2001, p. 135; 2000, p. 960) stresses that (the overcoming of) tensions in the activity model are key to process of learning, and function as the driving force of change and development. Across the pilot sites, the participants identified several tensions. Most prominent are the challenges *within* the community of the citizen users and within the community of the public administrator. In the community of the

citizen users, the tension reflects the concern of how to facilitate or build a community? As one respondent noted: “engagement among citizens is not well organized for every theme” (respondent 4). In the community of the public administrators, participants point out either a lack of management support, political support or lack of resources. Or as one respondent put it: “But something that is more fundamental are issues around power and affiliation and group dynamic and communication that are much more difficult to change” (respondent 6). Additionally, across the pilot sites challenges regarding open data can be identified, which relate to access, quality and the lack of data². Furthermore, ownership of the tools, moderation of the tools and trolling are mentioned.

Lastly, there might also be tensions *between* the two interacting systems. For instance citizen users might be interested in data that conflict with privacy issues or that PAs fear will have a backlash.

Implication for TET/SPOD:

- ⇒ In order to build a citizens community TET and SPOD should also facilitate the option of inviting outsiders to join by being able to send them graphs or visualizations that will lead them to SPOD or TET.
- ⇒ During the design of TET and SPOD and the further development of the scenarios it should be taken into account how to involve the pa’s community e.g. management and political leaders, to find out what is at stake for them and how to motivate them.

6.5 IN SUM

Hence, based on the theory and findings of the pilots, the tools should facilitate three different democratic processes, each having their own organizational or community context with different roles for citizen users and government (Table 4).

So far we have developed and tested societal activities of the use of open data across the different pilot sites and have described the implications for the design of TET and SPOD. The next question is what this will imply for the evaluation of TET and SPOD and the development of GUIDE recommendations.

² The barriers related to the use of open data are extensively discussed during the workshops organized at each pilot site as input for Workpackage 2. Hence in this document we will not elaborate on this but refer to Hogan, et al., (2015)

Table 4: Overview of the Societal Activity model of Open Data use

Use of open data	Monitorial democracy (Prato) Monitoring government behavior	Deliberative democracy (Groningen & Dublin) Feeding public debates	Participatory democracy (Issy & The Hague) Enabling collective action
Object	Government behaviour or performance	Policy issue	Joint action
Subject Citizen	Watchdog	Partner in dialogue	Partner in Action
Tool	- TET ensures transparency by access to data, data search and tools to visualize the data - SPOD facilitates data sharing	- TET ensures access and enables data analysis, personalization, comparing and combining datasets and feedback options - SPOD facilitates participation with debate and feedback options	- TET ensures access, decision making tools, the ability to add data - SPOD, facilitates collaboration with government and other stakeholders e.g. refining solutions and working together in documents
Rules/Mechanism (Organizational level)	Transparency, checks and balances, e.g. foia laws, privacy laws, but also rules regarding the virtual community	Deliberation, open communication e.g. procedures regarding participation	Collaboration or co-creation e.g. procedures regarding who is invited (based on expertise)?
Community	Government, journalist	Government and citizens	Government, citizens, businesses, researchers
Role <i>e.g. government</i>	Provider of information	Facilitating dialogue	Partner in Action
Outcome	Critical view on government behavior	Contribution to debate about policy issue	(Joint) action to produce public value

7 IMPLICATIONS

Next to implications of TET and SPOD, the development and outcome of the model also has several implications for the development of other facets of ROUTE-TO-PA.

7.1 GUIDE

The Societal Activity model could be useful in that it can identify capabilities, benefits, challenges, risks, outcomes and best practices associated with open data initiatives. For *GUIDE* the results mean that it can tell governments when and where TET and SPOD can be successfully applied. *GUIDE* will be developed during the process but based on the first findings we can provide an initial outline regarding the various components of the model:

- *Object*: The policy domain should be rich enough so that there is something to discuss for users.
- *Subject*: The activities will only be carried out if there are users with the needs and motivations to carry out these activities. Citizens will be inclined to conduct monitorial, dialoguing or participatory activities if they care about or have a stake in the specific policy domain. If they do not consider the policy issue relevant to them or are not interested in interacting with public administrators, they will not use the tools.
- *Tool*: Tools can only enhance the use of open data use, if open data are available and of high quality. If there are no data yet or limited data, TET and SPOD will not be able to enhance the activity.
- *Community*: Individual users may have an interest in discussing government performance or policy options and will profit of TET. However, if there is no community – or a badly functioning or low trusted one – there will be no interactions for SPOD to facilitate. *A key issue for ROUTE-TO-PA is therefore to implement effective community building processes (see WP5).*
- *Roles*: If the government does not provide or is reluctant to provide the information needed or is not willing to participate or coproduce with citizens, citizens might profit from TET and SPOD but it will eventually not lead to an outcome that enhances an open government.
- *Rules*: Citizens may require access to certain types of data for monitoring, debating or coproducing but if they do not have access to this data due to privacy or security rules, they will not be able to conduct the activities TET and SPOD are trying to facilitate.
- Lastly the issues of representation, information justice and social equity were raised during the initial stage of the pilot. These issues will need to be addressed and further elaborated on during the project: who is participating on the platform? Who are able to voice their opinions on the platform? And more importantly, who is not?

7.2 EVALUATION, VERIFICATION AND VALIDATION (WP 5)

Work Package 2 (WP 2) and Work package 3 (WP 3), provide the theoretical and empirical foundations for setting-up, understanding and evaluating participation in technologically supported activities around open data. WP 2 provided input for user requirements. Work package 4, the design of TET and SPOD, provides technological

requirements. The societal activity model, one of the components of WP 3, adds two more levels: the societal level and the organizational level. The latter will be further developed in WP 3.2 focused on the interactive activities in Open Data use. This model will elaborate and visualize the participation within the community, including roles and clusters identification.

Hence for the evaluation of WP5 we can now identify four levels that are all interacting together. For each of these levels, success criteria can be developed. The components of the societal activity model are in line with the levels of evaluation:

1. Technological criteria (Tool, WP4)
2. User criteria (Subject, WP 2)
3. Organizational criteria (Community, Roles and Rules, WP 3.2)
4. Societal criteria (Object – Outcome, WP 3.1)

For the evaluation of TET and SPOD this means that the model can be used to study the dynamics in the societal activity model; between the citizen-user and pa-user. It can assess the process of open government efforts at the different pilot sites based on the components of the societal activity model, thereby identifying possible shortcomings, challenges and transformations over time. In addition, the outcome can be assessed. The outcome of the societal activity model is different for the three democracies.

During the second and third years of the project, additional models will be developed: the community interaction model, and the social representations model. These render the systemic activity model, developed in year 1, more concrete, in their focusing on evolution of forms of interaction and collaboration mediated by the SPOD/TET, and on changes in participants' representations (e.g. of the degree of transparency of their PA).

8 RESPONSIBLE RESEARCH AND INNOVATION CRITERIA

Finally, we will address Responsible Research and Innovation (RRI) criteria for this deliverable. RRI has acquired prominence by its status as a cross cutting issue of the EU framework program for R&I, Horizon 2020 (European Commission, 2015). The European Commission defines RRI as follows: “Responsible Research and Innovation means that societal actors work together during the whole research and innovation process in order to better align both the process and its outcomes, with the values, needs and expectations of European society. RRI is an ambitious challenge for the creation of a Research and Innovation policy driven by the needs of society and engaging all societal actors via inclusive participatory approaches” (European Commission, 2015, p. 10).

In 2014, a group of experts was appointed by the European Commission “to identify and propose indicators and other effective means to monitor and assess the impacts of Responsible Research and innovation (RRI) initiatives, and evaluate their performance in relation to general and specific RRI objectives (European Commission, 2015, p. 9)” During their work, influenced by the Rome Declaration on RRI in Europe of Nov 21st 2014, the experts suggested a list of 8 criteria to be monitored. These criteria will be addressed below for this deliverable.

1. Public engagement

For the empirical work we involved public administrators, active citizens, researchers and data journalists, social organizations and entrepreneurs through the organization of workshops, focus groups and interviews. Workshops and interviews have been held on each pilot site: Dublin, (Ireland) involving 15 participants, Groningen (Netherlands) 16 participants, Prato, (Italy) 17 participants and Issy, (France) 17 participants, The Hague (Netherlands) 24 participants.

2. Gender equality

The workshops for requirements elicitation, a total of 87 participants have been involved, comprising 26 females and 61 males. The expert workshops consisted of 14 participants comprising of 11 males and three females. Finally, the conducted in-depth interviews consisted of 8 males and 3 females. Efforts will be made in the composition of User Study Groups, in WP 5 and representatives of the User Advisory Board to ensure balanced representation of women.

3. Science education

At least one of the partners (NUIG) will be demonstrating resulting technology artefacts (Open Data and Social Platform) to secondary school students as part of its outreach activities.

4. Open Access

This deliverable will be available in its final format at the <http://routetopa.eu/public-deliverables/> Publications related to these results will also be made available through the various open access archives of the respective research and academic institutions.

5. Ethics

According to D1.5 Ethical Policy, in order to conduct the user workshops, each research partner submitted a proposal for ethical clearance to the relevant authorities in their context (University Research

Center/Company). The main goal of this ethical clearance is to guarantee the right, safety and risk-free for participants in the scientific research activities. The ethical approvals are attached to Deliverable 1.5 Ethical Policy. According to the process submitted to ethical clearance, consent forms were given to participants during the workshop. In addition, ethical issues have been considered within the collected requirements, ensuring privacy and security of user data.

6. Governance

The project Ethical advisor will review all processes involved in the engagement and collection of information from participants in workshops and other activities related to user stories elicitation and requirements specification.

7. Sustainability

Part of the ROUTE-TO-PA project is also to conduct a market analysis, thereby identifying sustainable business models, including the ones that will create value through technology transfer to other sectors.

8. Social Justice/Inclusion

SPOD supports accessibility features so that disabled users can personalize their interface to take advantage of the features. In terms of usability and accessibility of the deployed systems (TET and SPOD) an alternative explicit alternative flow will be designed for users with visual deficiencies. In addition, the inter-generational dimension is considered, whereby ways will be considered to reach out to socially isolated individuals.

9 CONCLUSION

The guiding question of this document was how we can model the societal activities associated with open data usage that are to be supported by TET and SPOD and included in GUIDE. This document follows a top down approach. It identified three democratic processes: monitorial, deliberative and participatory. At the organizational level, the varieties of transparency were examined and the concepts of participation and collaboration as part of an open government were explained.

Both the democratic processes and organizational components were taken into account as being part of the context in which the activity, the usage of open data, takes place. The usage of open data by citizen users and public administration-users were considered as two separate activity systems, interacting together in a network. This resulted in the Societal Activity model of Open data use.

In addition, the pilot sites were described thereby illustrating the different components of the Societal Activity model. The pilot scenario's provided examples of a monitorial, deliberative and participatory process. In each context citizens and public administrators have different roles. Moreover the desired outcome is different, in line with the context. Furthermore, the findings showed that most pilots focus on event and process transparency. The information discussed in the pilots mainly concerns transparency in retrospect. For the future it could also be considered to facilitate transparency in real time, for example earthquake information or the facilitation of live streaming of council meetings.

Finally, based on the Societal Activity Model and the findings in each case it was possible to make some recommendation for the design of TET and SPOD and for formulating the initial guidelines. At the same time the Societal Activity model allowed us to identify possible tensions or challenges e.g. building a citizens community and creating a supportive community for PA. As Noveck (2009, p. 23) points out, designing for a stronger democracy requires rules, policy and technology to create more effective institutions. The identified tensions provide the key to learning and change, which will provide input for WP 5, evaluation, validation and verification.

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APPENDIX A: IDENTIFICATION COMPONENTS OF ACTIVITY MODEL IN YOUR SCENARIO

Component	In my scenario...
<i>Type of Democracy</i> : monitorial, participatory or collaborative?	
<i>Subject</i> : what are the needs, motivations of citizens? Others?	
<i>Object</i> : What is the policy issue?	
<i>Tool</i> : How can TET and SPOD facilitate? Which datasets are there?	
<i>Rules</i> : Are there specific rules concerning the policy issue and the release of data?	
<i>Community</i> : Who is involved?	
<i>Role</i> : What is the role of the government? What is the role of other stakeholders?	
<i>Outcome</i> : How does the use of open data contribute to an open government in terms of transparency, participation or collaboration?	
<i>Other</i>	

APPENDIX A: TENSIONS: IDENTIFY POSSIBLE TENSIONS, CHALLENGES REGARDING THE COMPONENTS IN THE ACTIVITY MODEL IN YOUR SCENARIO

Tensions regarding component:	In my scenario there are the following challenges...
<i>Subject (Citizen):</i>	
<i>Object (policy issue):</i>	
<i>Tool (data, SPOD/TET):</i>	
<i>Rules:</i>	
<i>Community (government, other stakeholders):</i>	
<i>Role (government and others in community):</i>	
<i>Other...</i>	

APPENDIX A: IMPLICATIONS AND OPPORTUNITIES FOR THE DESIGN OF TET OR SPOD, GIVEN THE CHALLENGES OUTLINED EARLIER

	Implications for TET	Implications for SPOD
<i>Subject</i>		
<i>Object</i>		
<i>Tool (Open Data)</i>		
<i>Rules</i>		
<i>Community</i>		
<i>Roles</i>		

Other....		
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APPENDIX B: RESULTS OF THE WORKSHOPS DURING THE GALWAY MEETING JUNE 2015

1) Dublin – Deliberative democracy

Dublinked fits into deliberative democracy model. Dublinked facilitates civic contribution to the debate on policy issues; specifically it encourages community conversations and builds community networks.

Subject-Communities, Residents

Object – The object is capacity building. The Policy Issue is building community awareness and capacity for engagement. The motivation for communities to engage is the chance to find out what is already available/happening in their neighbourhood and what is planned for their neighbourhood in the future with the ultimate **outcome** to ‘make my area great/make my city great’

Community – Local authorities, Elected representatives, communities of interest (residents associations, community groups, interest groups/lobby groups etc) and their role is to be part of that conversation.

Roles – Local authority is *facilitator* and *data provider*. Other community players are *participants* in community conversations and network building

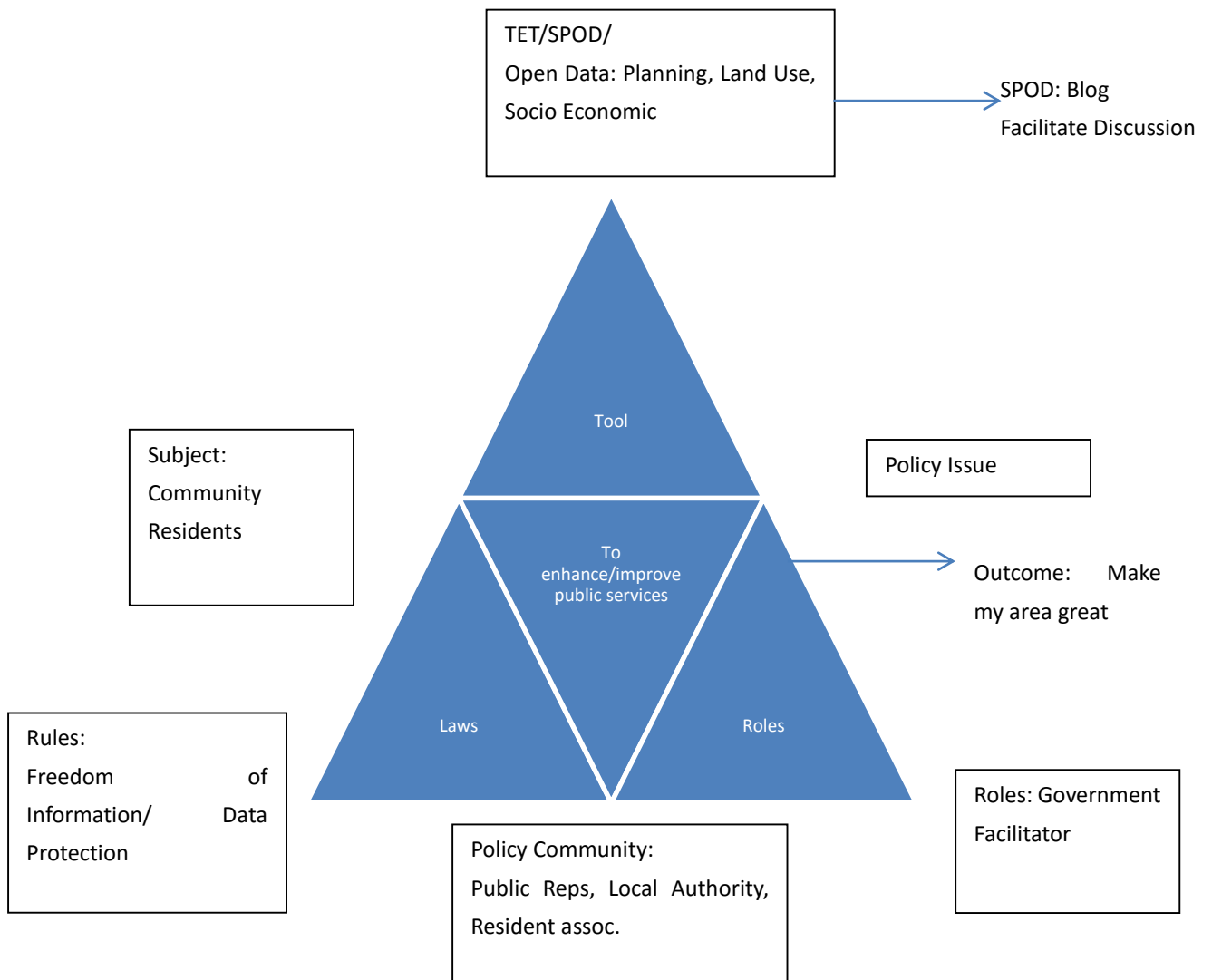
TET ensures ease of access and enables visualisation and to ‘slice and dice’ a wide range of complex data, to build community awareness and community ‘profiles’. Opportunity to develop a repository of interactive widgets to ‘seed’ engagement e.g. tools by which communities can find out how their neighbourhood is doing and compare to other neighbourhoods

SPOD facilitates debate, input and feedback options, enabling two way information exchange between communities and the local authority and potential for a community platform enabling citizen to citizen knowledge exchange.

Data – Public amenities, services and facilities, planning and landuse, socio-economic data etc

Rules – data protection, particularly in relation to planning data, whereby the names of applicants for planning permission must be stripped out if they are made ‘hyper searchable’ by publishing as open data; challenge is to develop scripts that remove personal data, particularly as services move online and public input their own data, personal data can be input into unexpected fields. Freedom of Information request logs may give an indication of what kind of data is in demand

Tensions – Facilitating collaboration over potentially sensitive data e.g. socio-economic data at small area level. Data may highlight social divisions – disadvantaged areas compared to areas of affluence. Challenge also to ensure that the ‘digital divide’ does not compound ‘social divide’ i.e. affluent areas may already have more capacity to engage online and may need additional capacity building to develop skills and awareness in other areas. Also challenge of moderation on SPOD over potential flashpoint issues – communities need to have ownership over platform and self moderate as the local authority do not have resources for 24-7 moderation. Need early flag for controversial issues. Finally, there are challenges in the data from static to dynamic data. It needs to facilitate the discussion, two way information flows.



2) Groningen – deliberative democracy

Groningen can be characterized as part of a deliberative system but also has participatory elements. The pilot in Groningen is focused on population decline.

Subject: Citizens, they are primarily concerned about the loss of (public) services and their quality due to population decline. These potential losses are the key motivators for citizens to be involved in open data projects.

Object: The policy issue is population decline

TET: TET can help to give insights in the current developments and government actions regarding demographic shrinkage by e.g. data analysis and reporting tools. It enables e.g. voting or polling options. Furthermore, since population decline is linked to different policy topics and the community is diverse, the policy information and issues published by the government, need to cover a variety of topics. TET should facilitate these diverse topics and facilitate the link between the topics.

SPOD: SPOD is useful in terms of sharing knowledge, finding the right contacts and interact with relevant stakeholders. Government information should be easily accessible. SPOD has to facilitate and integrate the various backgrounds of actors and stakeholders, so that different people with different motivations can interact.

Open data: current data are primarily demographic and financial data.

Rules: FOI (Wet Openbaarheid Bestuur), Re-use of Open Data and Privacy laws

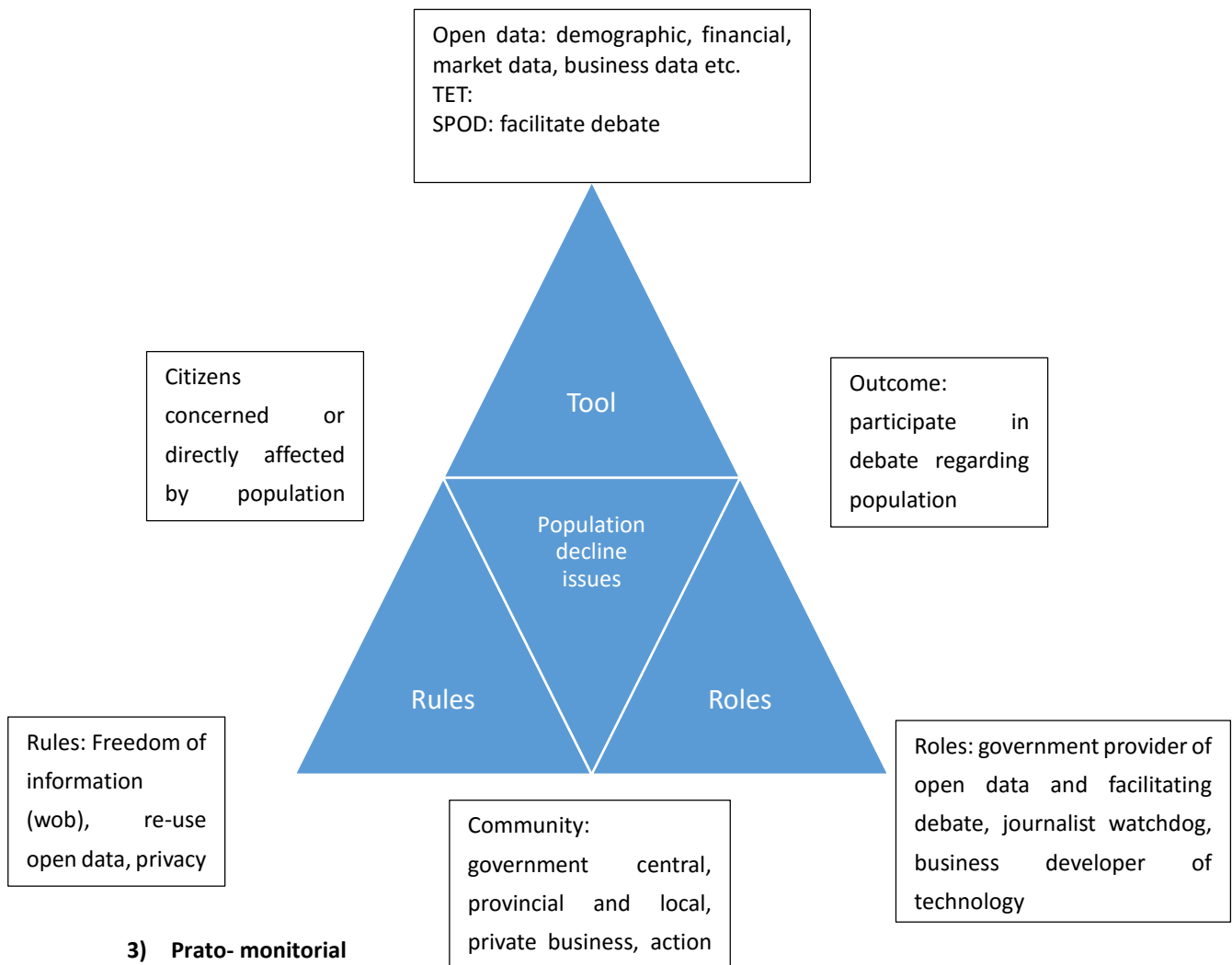
Community: consists of citizens, policy makers (municipality, province, national government), politicians, local initiatives, public organizations (schools, health care organizations, etc.) and private companies (entrepreneurs, consultants, infrastructural organizations,

Role: the government is the provider of open data related to population decline and facilitates the debate. The role of public organizations, other stakeholders and private companies is to participate in the debate and perhaps provide solutions for the issues identified. The role of the journalist and some local initiatives is that of a watchdog, being able to monitor the government.

Outcome: citizens contribute to the debate of population decline.

Possible Tensions and implications for SPOD and TET: A tension could arise between the need for personal eye-to-eye contact and the use of SPOD. In rural areas people know each other and they might prefer personal contact. Therefore in some cases SPOD will be useful and a functional way to connect people. In other cases a more personal way of communication is preferable. The implication is that the strategy might have to incorporate both online and offline activities to stimulate the debate about population decline.

In addition, some actors experience rules that limit the access to data: open data is not always truly open data. Therefore, it needs to be clear for the users in terms of specification of the data in the TET what one can do with the data e.g. if it is open to commercial use or not. The rules should not be seen as an entry barrier for users. Both TET and SPOD need to facilitate easy access.



Listed below there are the components identified for the Social Activity Model. First of all, some comments on the kind of democracy. Prato is monitorial. It means that the task is to monitor the budget and see how the budget is spent. Paolo was describing a process to move from a monitorial participatory more open to discussion for next year budget. This is a process where they are trying to involve the citizens in discussing the formal budget to a new budget. It is monitorial with a twist on participatory.

9.1.1.1 SUBJECTS

The subjects are the citizens. Another category is for instance the business men category; persons from company want to access and identify the issues that can be useful for them, information about procurements, how many pencils were bought by the town council last year. Is it going a chance for my company that makes the best pencils? Am I competitive economically on that?

Then of course the citizens motivations is the transparency, like controlling the budget.

Sometimes control is also made by other government agency so they are not subject in a way, but at same time other agency of the government are subjects that access to the system and they want monitor at different level of the government the expenses.

Another need is the entire corruption, the procurements that reveal something about corruptions.

The policy issues is financial. So the object is the budget.

How can TET and SPOD facilitate? The top of the triangle which the dataset are there. They have budget, procurements and some service cost.

Not sure whether procurements are available in text format, whether they can be mined and perform some search into the data set. The analytics on the data set will be really important.

SPOD could be interesting to create groups that are orthogonal to the budget expenses. Something that is directing need of a specific group of citizens and allows them to address all the part of the budgets that are relevant, something like, people discussing what is done in the budget for kids under three. This discussions could be ignited with some data sets seed. Limited and specific to the groups.

9.1.1.2

9.1.1.3 THE RULES.

The government asked to release data, so actually Prato is following the rules.

Community involved: business associations, citizens group and activists group (with an ideology). And also again a community for internal validation, other agency from government for self-control.

The role of the government that has the objective of insure transparency. For business the role is to create value. Citizens want to improve services and participate in politics.

The outcome is transparency with a little bit of participations on top of it.

9.1.1.4 TENSIONS

Several tensions. Among the subjects potential conflicts between citizens and business man. They are both in the same group of users, but I may discover that the user that is sitting metaphoring into the SPOD. It is just the business man that was citing the public government that they were selling expensive items to the government. It is like tension among the potential users of the tools.

About the SPOD tension is hijacking the discussion. It is a big issue. It is something that should be address from beginning.

Other tensions within the government, the self-control through other agency that monitor the behaviour of other agency.

9.1.1.5 IMPLICATIONS

We have different subjects participating so it means that in TET and SPOD should be **roles**. So, the user participates as citizen, as business man, or as an activist. It looks very simple but it is not. It is very complicated when I am a citizen and a business man and an activist. Who am I for the system?

About the tools some implications. For SPOD the moderation is a big issue. For TET is the automatic validation of data inconsistency. So, if you can automatically get the data and find some inconsistency it could be interesting. About TET for the roles are just the shift of government toward to the role of service provider. There is a change in their role, and the entire process could provide inside their local spending.

4) Issy – Participatory

Subjects: We will focus on the activity of two central groups: entrepreneurs (figure 1) and public administrators (figure 2). Entrepreneurs refer to people who are in the process of creating a company and to people who have created their company since less than two years. Public administrators refer to representatives of public affairs. They apply, supervise and coordinate the policies programme of governments at local and regional level.

Object:

In accordance with policies commitments, PAs generate public access to policies and financial information with the aim of restoring public trust and thus facilitate dialogue between electors and local governments. They want to make government processes and decision open. Intrinsically, they seek to foster the development of an economic environment around the transformation of open data into new applications and services. In this way, they want to improve communication between local communities and private companies in order to find a converging model of development which boosts employment.

Entrepreneurs want to build sustainable enterprises to create a network of business and public contacts. More specifically, they are looking for public subsidies and they are interested not only by promoting jobs creation but also in making money.

Instrument:

The interaction between subjects and objects is mediated by a collaborative platform which allows users to exchange verbally and to analyse information collectively. It would give PAs possibilities to identify entrepreneurs issues and their expectations regarding open data.

This device would include a discussion space (SPOD) in which communities could exchange (synchronously or asynchronously) by basing on open data sets and a production space (TET) in which they could exploit and transform data by using visualisation tools.

On the SPOD, (i) PAs could consult entrepreneurs to identify the most relevant data to publish to promote the development of digital applications and (ii) those which should be opened to give entrepreneurs answers to typical initial difficulties associated with business creation (e.g. taxation, human resources, competitive watch etc...). By using the TET, they could propose data in an intelligible format with the aim of facilitating their cross-referencing and their re-use.

The platform would also give entrepreneurs possibilities to be informed about public politics in their domain, to share knowledge and experiences.

Finally, this instrument could potentially influence their activities, through its functionality and its presentation format.

Rules:

On the existing (Facebook, Twitter) and upcoming (SPOD/TET) collaborative platforms, exchanges must

respect rules about privacy (professional confidentiality) and they have to be focused on a specific topic.

From the entrepreneur's point of view, privacy policy refers to information about design process of new products, financial and economical data, business strategy, and organisational framework.

From the PAs point of view, privacy policy refers to data which could pose a threat in relation to economy, environment and citizens' safety. So PAs are reticent to publish data that might have a negative economic effect on the attractiveness of the city (e.g. about pollution) or data that would allow local pressure groups to criticise them (e.g. persons with disabilities needing full access to public transport).

Community:

Two specific communities of entrepreneurs and PAs are involved in the present project. Firstly, we focus on start-up entrepreneurs who develop innovative systems, principally in Information and Communication Technologies (ICT). Secondly, we are interested in Public Administrators in charge of technical services (e.g. information management) and business activity.

Division of labour:

Public administrators are the major collectors of open data. So, their main tasks would consist of adding data sets on the platform and helping entrepreneurs to understand and exploit those which require specific knowledge. Furthermore, they could also consult entrepreneurs with the aim of identifying new data which should be collected for supporting their economic development.

Entrepreneurs could upload and share open data. They also could collectively analyze data and share advices on the basis of this data.

Figure 1 shows the activity model for entrepreneurs who use the platform Route-To-PA. Figure 2 shows the activity model for PA who use the same tool.

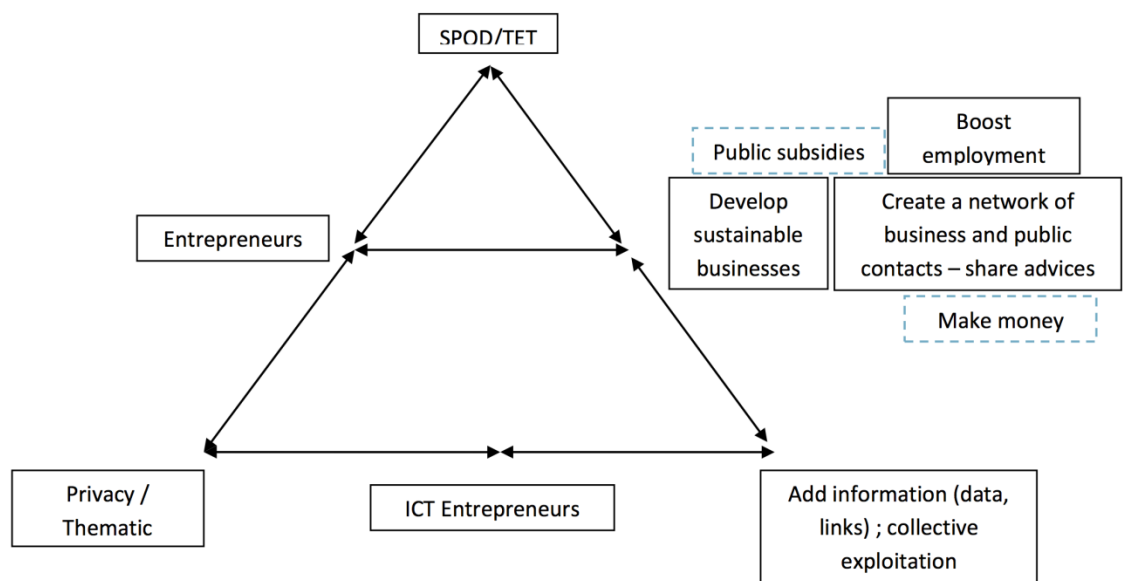
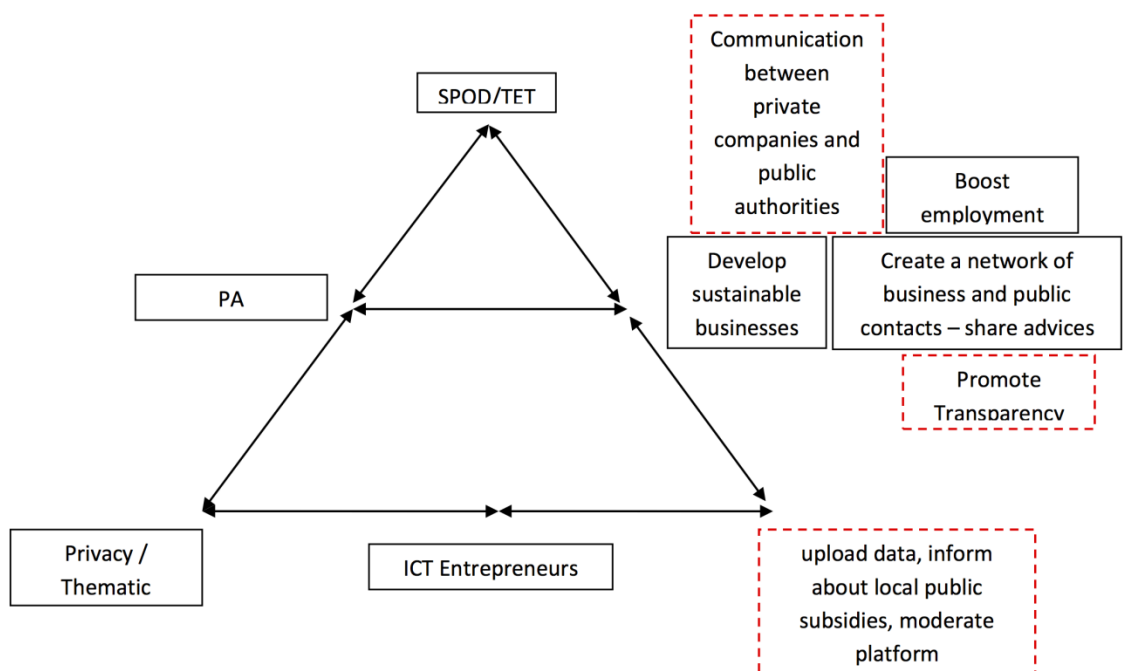


Figure 1 : Model of an activity system : example of Entrepreneurs who use a community platform devoted to Open Data



TENSIONS:

This study is intended to answer to a series of entrepreneurs and public administrators' needs in the economic domain by using a community platform devoted to open data. However, there are many contradictions between individuals' needs of each population (entrepreneurs – public administration) and the considered solutions.

Thereupon, we have noticed seven double binds (figure 3 & 4).

- Entrepreneurs

(i) First, entrepreneurs want to obtain quick answers to their questions. Yet, collective exploitation of open data work is a long process that involves asynchronous interactions. Moreover, data are provided in a specific format to be handled by experts in specialized activities (Denis & Goëta, 2013; Gitelman, 2013) ; so it could require knowledge that entrepreneurs have not, more precisely it could require to seek information on the data collection process.

(ii) Entrepreneurs need updated information in order to obtain/maintain a competitive advantage and to accelerate optimization of business processes. However open data undergo several processing before publication (Denis & Goëta, 2014), they are generally put on line with a delay.

(iii) Indeed, open data are formatted, extracted from their initial pattern of categorization (e.g. vocabulary specific to a service or/and a task etc...) and harmonized (e.g. by using a common unit of measure). So, they are normalized and not completely "raw" (Baker & Bowker, 2007; Edwards Mayernik, Batcheller, Bowker & Borgman, 2011) Whereas PAs have the aim of boosting employment by encouraging the development of sustainable enterprises, this data production process may restrict open data re-use to specific fields of activity, and so to a limited number of companies.

(iv) Furthermore, entrepreneurs do not wish to disclose confidential information. At the same time they need personalized answers adapted to their individual issues.

(v) Finally, entrepreneurs seek to collaborate with other companies but they could be in competition with them in some lines of business.

- Public Administrators

From the public administrators' point of view, transparency is necessary to reinforce citizens engagement in the decision in the decision process of public affair. However, PAs are both the judges and the ones being judged in the field of open data.

(vi) Firstly, the rules of their community require them to "preserve economical and political interests" and these rules lead to processes of selecting which data should be published or not. Even though PAs wish is to boost an economic environment around the transformation of open data into new applications and services, this selective publication process makes some data confidential and does not allow companies to create all the useful and operable tools that they could.

(vii) Secondly, PAs regulate exchanges on current social platform on local public action (whose open

data). They also ensure safety and confidentiality of those members. So, they can remove any information which would be unfavorable for them (eg: an entrepreneur who develops a system which gives solution to a specific lack of local politics). Consequently, interaction is not completely free. In certain circumstances, entrepreneurs could not build collaboration and so it could affect economic growth.

Figure 3 shows the interdependent activity systems of Entrepreneurs and PA, and possible tensions within and between them.

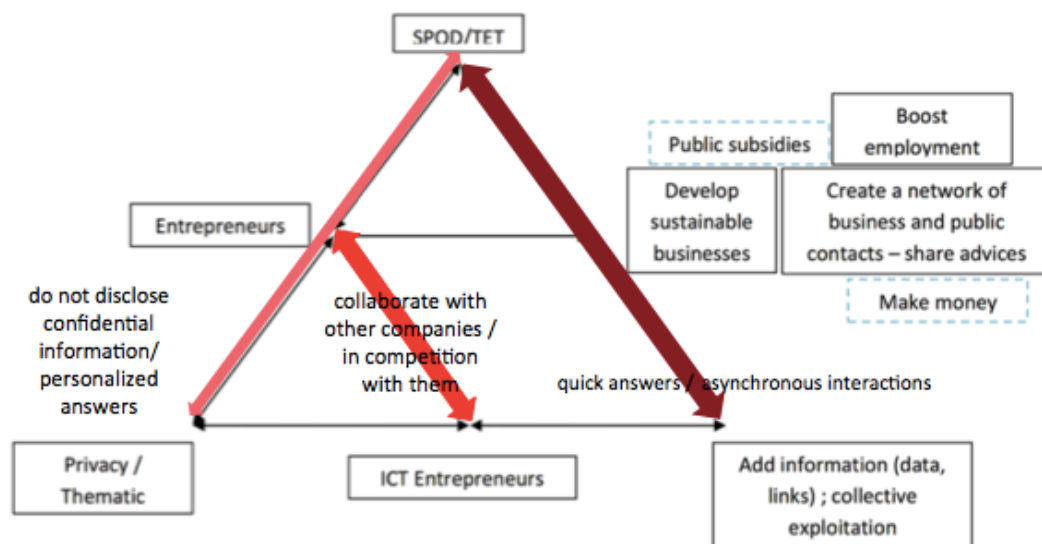


Figure 3a: Tensions within the activity system of Entrepreneurship

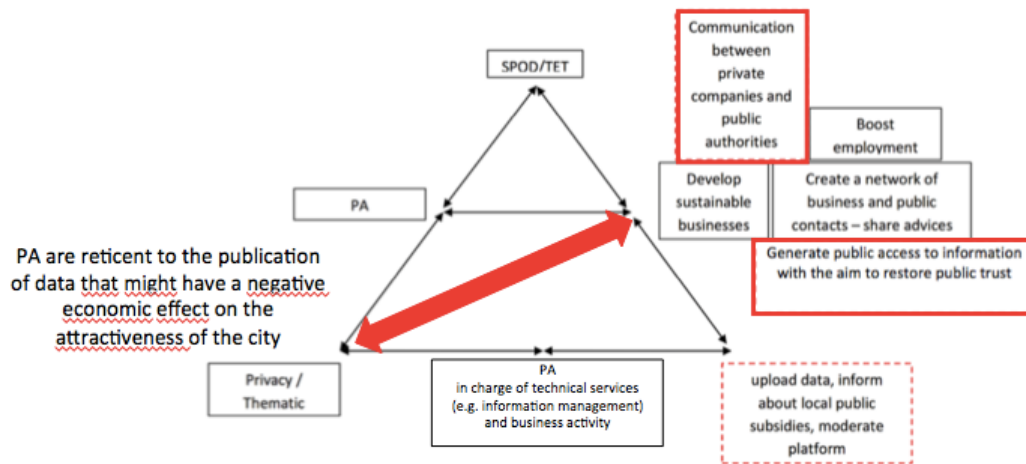


Figure 3b: Tensions within the activity system of Public Administration

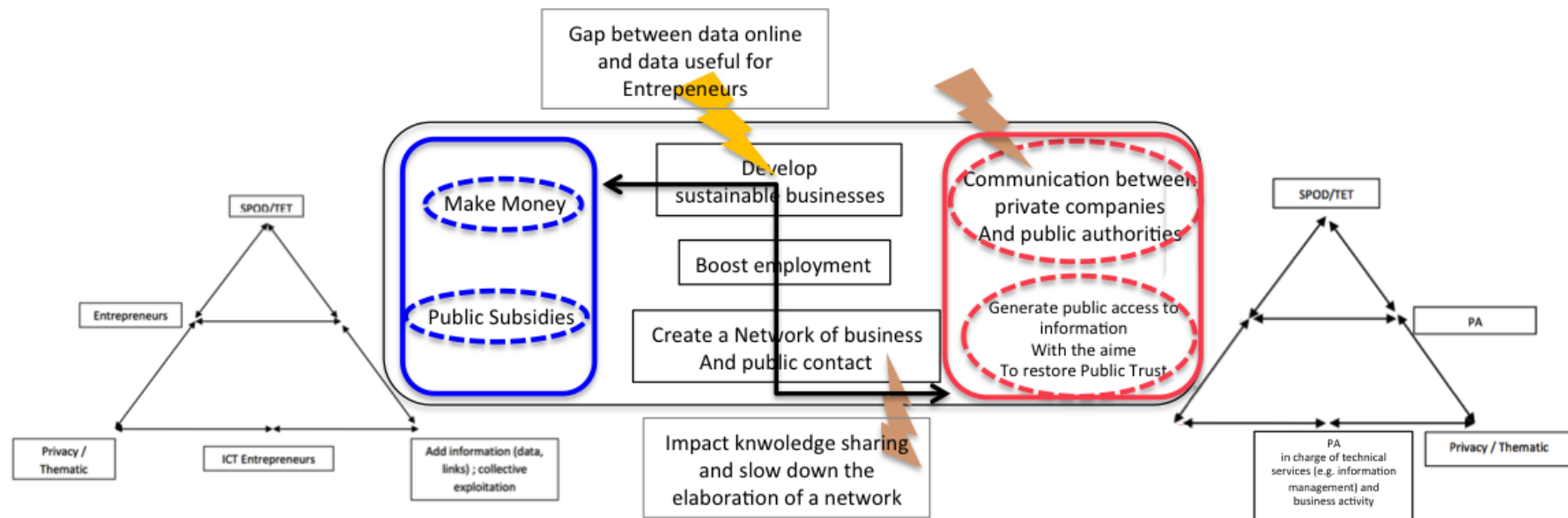


Figure 3c: the interdependant activity systems of entrepreneurs and PAs and possible tensions between them

IMPLICATIONS:

By considering the issue of entrepreneurs we have analyzed possible implications for the development and the evaluation of a social platform devoted to open data.

Four options were discussed.

(i) In the field of privacy policy, a research gateway based, not only on users' requests but also on their characteristics (e.g. professional activity, professional sector, age, level of expertise in open data) has been envisaged as a solution to reduce the amount of personal information provided by users to others. In this context, the nature and the quantity of private information have been considered as effective evaluation criterions of protection of privacy.

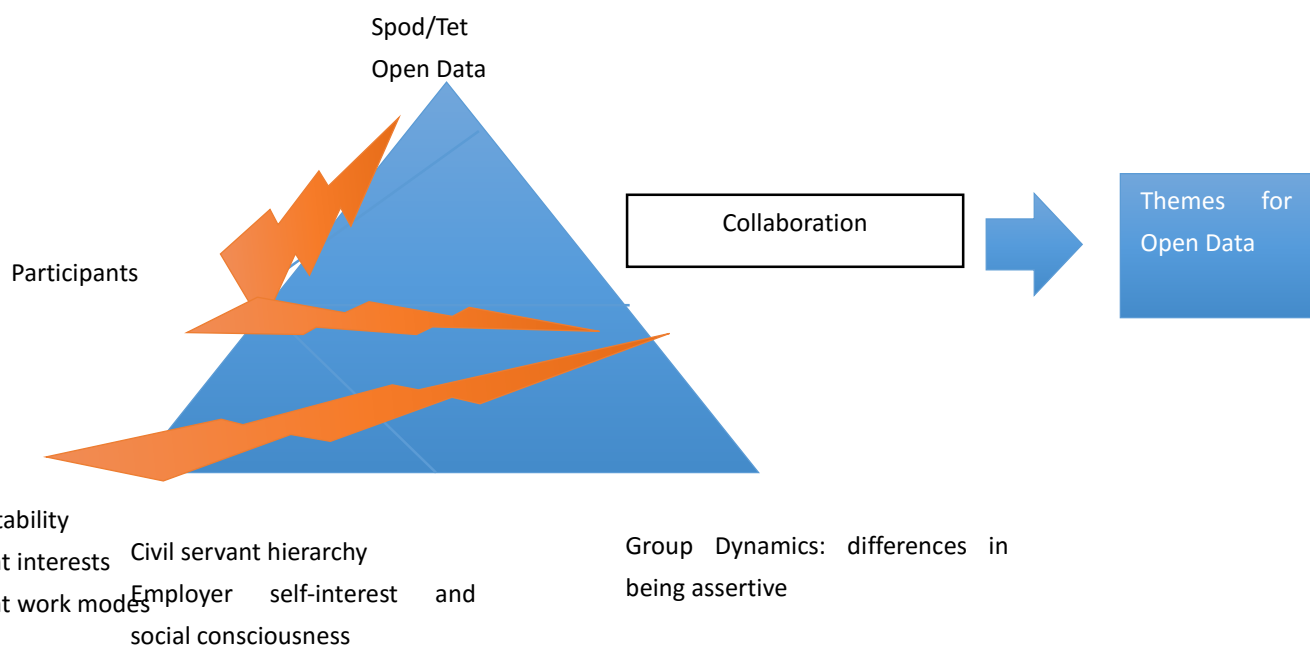
(ii) From the information processing point of view, a meta-data tool appeared as a solution for improving comprehension of data sets (Edward, Mayernik, Batcheller, Bowker & Borgman, 2011). Within this framework, the connection time and the number of clicks (on the sections available on the platform and on the links to partner sites) have been envisaged as evaluation criterions of the usability of the platform.

(iii) In order to accelerate research process, this meta-data tool could be associated with a ranking system which takes into account external sources of information and which proposes categorized solutions from the entire internet network (e.g. forum, FAQ). By this way, RTPA platform would be viewed as a reliable aggregator and not as an additional open data website or a new application for mobile devices. In this case, the number of requests that would find a sufficient answer could be considered as an assessment index of the efficiency of the research module.

(iv) Concerning transparency, the participation of citizens in the open data production process has been regarded as a sign of reliability of published information (Chun, Schulman, Sandoval & Hovy, 2010; Evans & Campos, 2013). In this perspective, the percentage of new data sets published by PA at the request of citizens, has been envisaged as a measure of the level of transparency.

5) Den Haag – participatory democracy

Den Haag can be characterized as a participatory democracy: sometimes civilians and public administration together discuss new solutions for collective problems. Some groups are more active than others, and most participation involves policy implementation. The pilot in Den Haag is focused on finding practical solutions for the implementation of complicated rules in the domain of labour and loss of labour for various target groups.



Subject:

- Employers, they struggle with new legislation. Their primary interest is their company, and finding the right candidates for the jobs they offer. However, they also have an interest in being involved with local government, to discuss issues with complicated rules and regulations current (national) government excels in.
- Public Administrators, they are responsible for good social policies and their implementation; they have a need to better understand the consequences of policies and therefore have a natural interest in various forms of participatory democracy.

Object: Finding joint solutions for the challenges of current labor market policies.

TET: TET can help to give insights in the current developments and government actions regarding labor policies by e.g. data analysis and reporting tools. It enables e.g. voting or polling options. Furthermore, since the labor market is linked to different policy topics and the community is diverse, the policy information and issues published by the government, need to cover a variety of topics. TET should facilitate these diverse topics and facilitate the link between the topics.

SPOD: SPOD is the main medium for facilitating collaboration, within different scenarios, such as: co-creation, sharing knowledge, finding the right contacts and interact with relevant stakeholders. Government information should be easily accessible. SPOD has to facilitate and integrate the various backgrounds of actors and stakeholders, so that different people with different motivations can interact.

Open data: current data are primarily local data about the labour market, including information about different policies, also from other municipalities.

Rules: Rules of conduct in the two communities, including the previous history of their collaborations; rules of autonomy and privacy for public administrators.

Community: consists of citizens, policy makers (municipality), politicians, local initiatives, public organizations (schools, health care organizations, etc.) and private companies (entrepreneurs, consultants, infrastructural organizations). More concretely in our case: employers with large companies, account managers and senior public administrators.

Role: Roles in the discussion can be: raising issues, offer perspectives, moderate collaboration, summarise, integrate, disseminate outcomes; all of these roles are needed and should alternate between participants.

Outcome: New solutions are constructed and further disseminated, leading to new initiatives: New co-creation groups are established debating various labor market issues.

Possible Tensions and implications for SPOD and TET:

- Lack of knowledge and experience with Open Data
- Lack of clarity about what data in a table actually mean, both in the simple sense of lack of headings, a clear description of what is in the table, etc, but also, deeper interpretation of complicated data.
- Top down regulations of public official behavior, including the private or public status of what happens in the SPOD
- In spite of preparation, participants may still have their private (or role related) reasons for participation, and may not be open or constructive when this is needed (for various reasons, also linked to the medium of communication);
- Lack of experience with collaboration in a social medium
- Tensions between political level and administrators

APPENDIX C INTERVIEW QUESTIONS

1 Introduction

- Purpose: input societal activity model, WP 3.1
- Can you tell me something about yourself and your work?

2 Elements model

Policy issue

- What is the issue about?
- What is the aim?

Democratic condition

- You identified Dublin/Prato/Den Haag/Groningen/ Issy as a monitorial/deliberative or participatory democracy regarding this particular issue. Could you elaborate on this. Why according to you does it classify as?

Open Data

- What is currently the role of open Data regarding... (population decline/financial transparency/ etc)?
- How do you think Open Data can contribute to this policy issue?

Rules

- Are there laws and regulations that influence the project in general and release of data in particular?

Organizational Culture

- Do you think the administrative culture in your agency influences the collection/release of open data regarding the policy issue? In what way? (describe the culture, informal rules)
- Does your organization have sufficient expertise and/or capacity to collect Open Data?
- Does your organization have sufficient expertise and/or capacity to provide Open Data?
- Is there political support for the release of open data regarding the policy issue?
- Is there management support for the release of open data regarding this policy issue?

Community

- Who are the most important stakeholders? Are they in contact with one another? How?

Roles

- You identified the most important stakeholders. Can you elaborate on their role (needs/motivations) in the project?
 - Citizens? Do citizens request/want information on this topic? Are they participating in the project? How? Do you collaborate with citizens regarding the issue? How?

- Government? Do other departments, layers of government request/want information on this topic? Are they participating in the project? How? Do you collaborate with them regarding the issue? How?
- Interest groups? Do interest groups request/want information on this topic? Are they participating in the project? How? Do you collaborate with them regarding the issue? How?
- Companies? Do companies request/want information on this topic? Are they participating in the project? How? Do you collaborate with them regarding the issue? How?
- Media? Do the media request/want information on this topic? Are they participating in the project? How? Do you collaborate with them regarding the issue? How?
- Other stakeholders in community?

Outcome

- What are desirable outcomes of the ROUTE-TO-PA project for this policy issue?
- What are possible undesirable outcomes?

3 Tensions/challenges

- We have so far discussed several issues. Can you identify possible tensions/challenges?
 - Regarding:
 - Policy issue itself?
 - The collection, release of open data?
 - Rules?
 - Organizational culture?
 - Different stakeholders?
 - Citizens?
 - Government?
 - Roles stakeholders?
 - Outcomes?

Or : You have identified possible tensions/challenges in the model for your project. Could you elaborate on these tensions? Are there perhaps any other tensions?

- How can these tensions/challenges be solved?

4 Implications for the design of the platform (TOOL)

- Considering the aim of your project what is the most important contribution TET/SPOD can make to your project? Can you elaborate?
- You have identified several tensions/challenges. What can SPOD and TET do to mitigate these tensions?

TABLE 1: IN SUMMARY A COMPARISON ACROSS PILOT SITES – PERSPECTIVE CITIZEN

<i>Elements</i>	<i>Societal Activity model of Open data use</i>				
	Prato – Monitorial	Groningen-Deliberative	Dublin- Deliberative	Issy- Participatory	Den Haag- Participatory
Object	Topics or decisions of interest for citizens	Topic directly affects citizen	Relates to citizen’s community	collaboration	The scenario needs to contribute to their own interest
Open Data	Data available but in pdf format	Limited availability of datasets	Datasets available for policy issue	Limited	Not yet
Citizen	Intermediaries/individuals	Intermediaries/individuals	Intermediaries/individuals	Individuals	Individuals
Community	Hetereogenous	Heterogeneous	Heterogeneous	Homogeneous	Homogeneous
Roles	Watchdog	Participant in dialogue	Participant in dialogue	Participant in dialogue with other entrepreneurs, less with pa, Partner in co-creation process	Partner in co-creation process
Rules	Insight in budget rules			Rules on platform, trolling	

Outcome	Facilitate access to administrative processes (monitoring)	Deliberation	Social network, deliberation	Create network, develop business	Collaboration, co-creation
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TABLE 2: IN SUMMARY A COMPARISON ACROSS PILOT SITES – PERSPECTIVE PUBLIC ADMINISTRATOR

<i>Elements</i>	<i>Societal</i>	<i>Activity</i>	Prato – Monitorial	Groningen-Deliberative	Dublin- Deliberative	Issy- Participatory	Den Haag- Participatory
<i>model of Open data use</i>							
Object			Specific, existing issue: monitoring government	Generic, existing societal issue	Generic, existing societal issue	Specific, to be defined together	Specific, to be defined together
Open Data			Data available but in pdf format	Limited availability of datasets, new in relation to policy issue	Datasets available for policy issue	Limited, new	Not yet, new
Community			Political engagement, difficult to get data across departments.	Political engagement, limited management support	Political engagement, growing management support	Political engagement, Some hesitance among pa's	Limited political engagement and management support
Roles			Manager city budget and data provider	Facilitator, data provider	Facilitator and data provider	Detecting needs of citizens, data provider	Collaborator and data provider
Rules			Inhibiting budget laws	Facilitating foia laws	Inhibiting data protection	Inhibiting privacy laws	Inhibiting policy law and privacy law
Outcome			"How we spend the money", involve young people	Deliberation	Deliberation, feedback	Dialogue, innovation "tools so that we can communicate"	Co-creation

TABLE 3: IDENTIFIED TENSIONS PILOT SITES

<i>Tensions:</i>	Prato – Monitorial	Groningen-Deliberative	Dublin- Deliberative	Issy- Participatory	Den Haag- Participatory
<i>Policy Issue</i>				To be further defined, created	To be further defined, created
<i>Open Data</i>	Data in pdf format	Data spread out over different organizations	Data might highlight social divisions, Changing the data from static to dynamic data	Quality of the datasets	Lack of data
<i>Citizen</i>	Lack of confidence in the administration and the quality provided				
<i>Citizen Community</i>	Communication around the project to build community, how to get them involved	Is there an interested community and how active are they?	Ownership of community	Ownership of the community, the moderator of the platform, How to get entrepreneurs involved Entrepreneurs are each other's friend and competitor	Employees are each other's friend and competitor
<i>Government</i>	Political will, difficult to get data across departments.	Political will, but limited management engagement	Political will, growing management support Facilitate collaboration over potentially sensitive data	Political will, some hesitance among pa's	Limited political and management engagement
<i>Community</i>					
<i>Rules</i>	Risk of explosion of information requests			Trolling	

<i>Roles</i>
<i>Outcome</i>